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DEPARTMENT OF PUBLIC SAFETY

Annual Report

Sub-Department of Health

To the Mayor and City Council of Baltimore *for the* Fiscal Year Ended December 31, 1916

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ANNUAL REPORT

SUB-DEPARTMENT OF HEALTH

Report of the Commissioner of Health.

BALTIMORE, MD., October 1st, 1917.

The Honorable,

The Mayor and City Council of Baltimore.

DEAR SIRS:

I have the honor to submit the annual report of the Sub-Department of Health for the year ending December 31st, 1916.

The reports of the various divisions are most interesting and contain much valuable data, and will amply repay those interested to carefully peruse the same.

The total number of deaths for 1916 were 10,719, which includes 650 non-residents, of which died in hospitals 619, asylums, etc., 26, and penal institutions 5.

The total death rate, based on the estimated midyear (July 1st) population of 589,621, was as follows:

		Deaths.	Death Rate per 1,000.
Total population	589,621	10,719	18.18
White population	501,155	7,983	15.93
Colored population	88,466	2,736	30.93

In 1915 the death rate was as follows:

		Deaths.	Death Rate per 1,000.
Total population	584,605	10,002	17.11
White population	496,682	7,525	15.15
Colored population	87,923	2,477	28.17

Death rate for ten (10) years is as follows:

1907	20.55	1912	18.33
1908	18.99	1913	18.59
1909	18.71	1914	18.20
1910	19.22	1915	17.11
1911	18.43	1916	18.18

Typhoid fever cases, deaths, fatality, estimated population, rate per 100,000 cases, and death rate per 100,000 for ten years, is as follows:

Year.	Cases.	Deaths.	Fatality.	Estimated Population.	Cases per 100,000.	Deaths per 100,000.
1907	1,417	230	16.23	544,482	260.2	42.2
1908	1,426	180	12.62	549,498	259.5	32.8
1909	1,069	136	12.72	554,514	192.8	24.5
1910	1,891	235	12.43	559,530	338.0	42.0
1911	1,201	154	12.82	564,545	212.7	27.3
1912	1,083	136	12.56	569,560	190.1	23.9
1913	1,163	135	11.61	574,575	202.4	23.5
1914	757	130	17.17	579,590	130.6	22.4
1915	949	128	13.49	584,605	162.3	21.9
1916	776	107	13.79	589,621	131.6	18.1

Death rates revised according to United States Census returns and intercensal yearly increase:

Years.	Total.	White.	Colored.
1875	24.36	22.87	32.63
1876	24.06	22.08	34.64
1877	28.79	26.31	41.96
1878	21.05	19.41	30.86
1879	23.34	21.11	33.09
1880	24.16	22.11	34.76
1881	25.67	22.32	37.99
1882	25.24	23.16	36.16
1883	25.78	23.29	38.91

Years.	Total.	White.	Colored.
1884	22.17	20.01	31.97
1885	21.22	19.20	30.17
1886	21.14	19.48	30.04
1887	20.94	18.69	31.45
1888	21.54	19.69	31.56
1889	20.47	18.99	28.52
1890	23.43	21.90	31.61
1891	22.76	20.94	32.56
1892	23.52	22.00	31.78
1893	20.89	19.08	30.70
1894	20.41	18.45	31.00
1895	21.81	19.77	32.83
1896	20.67	18.80	30.81
1897	19.15	17.42	28.46
1898	20.99	18.97	31.89
1899	20.22	18.33	30.37
1900	21.00	18.84	32.65
1901	20.37	18.10	32.64
1902	19.74	17.63	31.14
1903	19.34	17.29	30.48
1904	20.43	18.09	33.21
1905	20.01	17.57	33.40
1906	19.93	17.60	32.75
1907	20.55	18.18	33.64
1908	18.99	16.92	30.44
1909	18.71	16.58	30.53
1910	19.21	17.17	30.60
1911	18.43	16.21	30.85
1912	18.33	16.25	30.00
1913	18.59	16.26	31.64
1914	18.20	16.08	30.18
1915	17.11	15.15	28.17
1916	18.18	15.93	30.93

This means that had the same rate continued as in the beginning there would have died in our City 14,363 people, instead of 10,719, which was the actual number this year, a

saving of 3,644 lives. This saving has been more marked amongst the white people than amongst the colored, which is also shown in the table.

It will be noted that the death rate for the colored population for the last five years (1912-1917) has exceeded the birth rate by 2,373, while in the white race the increase of births over deaths has been 15,277. Notwithstanding this fact, there has been a gradual increase in the colored population of the City from 86,297 in 1912 to 88,466 in 1916. This increase in population has been due entirely to importation, and gives some idea of how the colored race is selecting Baltimore as a future home.

It will also be noted that the mortality for certain diseases is much greater among the colored than among the white; for instance, in tuberculosis, the whole increase in the death rate for 1916 from tuberculosis was found in the colored race in all forms of tuberculosis. The table for this disease shows that in recent years there has been a considerable improvement in the death rate for whites, but very little for colored.

The ratio in 1916 for all forms of tuberculosis to the death rate of whites to colored is 1 to 3.6, with the result that the rate for colored is 260% more than for whites.

This condition is undoubtedly due to causes enumerated in Dr. Howard's report, and should certainly be remedied at the very earliest possible date. It is a shame that the white people of Baltimore should be exposed to the danger of contracting this disease because of the fact that the colored, both men and women, in their employment have access to the homes and business places of the whites through the day, and returning to their homes at night where there are frequently one or two incipient cases in existence, which furnish the infected material for them to carry to their places of employment from day to day.

The fact that we have no place to hospitalize the colored tuberculosis patient is in itself a menace, and should be provided for at the earliest possible moment.

Every effort is being made by the Department to introduce better housing conditions, and the Tuberculosis Division of the Nurses' Department, under the able direction of Mrs. Henrietta E. Knorr, the Superintendent, and her assistant, Miss Mary L. Kelly, have been untiring in their effort to ferret out hidden and suspected cases, too frequently found in overcrowded lodging and illy ventilated houses.

Poliomyelitis.

In the early part of July, having kept in touch with the progress of this disease in New York, and believing that it would only be a short time before other cities in direct connection with New York through its various traffic routes would become infected, I had an early interview with his Honor the Mayor, who had already become intensely interested because of the reports in the daily press of the increasing number of cases occurring in New York City daily, who advised that I bring the matter at once to the attention of the Board of Estimates in order that I might secure funds necessary to enable me to employ sufficient force of physicians and detectives to quarantine the City against all persons 16 years of age and under from New York, New Jersey and Pennsylvania, which we did through the action of the State Board of Health on the 26th day of August, 1916.

We at the same time issued an order preventing the attendance of children at Moving Pictures, Theatres, Sunday Schools and public gatherings.

Realizing that the disease was more rapidly spread by contact than in any other manner, we procured at once a hospital (The Children's Hospital School), so that infected children could be removed as soon as a diagnosis was made,

from their homes to the hospital, thus removing the foci of the disease from the rest of the family and placing them under perfect control, and at the same time under most favorable conditions for recovery.

At the same time physicians and detectives were placed at all the depots, wharves and other points of entry to the City, and children 16 years and under from the three States named, were not allowed to enter the City except under strict quarantine regulations.

In this work we were greatly aided by our City Police Department and, later on, by physicians of the United States Public Health Service.

In order that our quarantining of houses should not work undue or unnecessary hardship upon the breadwinners and others of the family, we ordered a post-mortem in every case that died, so that the anti-mortem diagnosis might be confirmed or negatived, which in every case either raised or continued the quarantine according to the post-mortem findings.

This entailed an enormous amount of work upon those connected with the Department. My Secretary, Dr. Austin H. Wood, the Health Wardens, the Communicable Disease Nurses, the Fumigation, the Tenement House, the Chemical and Bacteriological Divisions, all of which worked early and late, and to whom much praise should be given for their hearty co-operation and untiring efforts; and I feel that special mention should be made of the work done by Dr. C. Frank Jones, who, notwithstanding the fact that he was acting as temporary assistant to the Commissioner of Health, he accepted and performed the arduous duties of diagnostician for the Department, going whenever called upon, both day and night.

I feel also that special mention should be made of the highly praiseworthy effort of Dr. J. F. Hemple, who with Dr. Montrose T. Burrows, Dr. Kenneth D. Blackfan and Dr.

Melvin S. Rosenthal, rendered invaluable assistance in aiding in the making of diagnoses (spinal punctures), holding post-mortems and recording all observable facts in connection with each case.

The work of the physicians assigned to the depots and wharves, aided by the physicians of the Public Health Service, with the satisfactory work of the detectives employed by this Department, and the Police Department, in not only watching the depots, but seeing that children were not allowed to enter quarantined places, are all deserving of much praise for their unselfish devotion and hearty co-operation in combating the spread of this most formidable disease in our midst.

Recognizing the fact that this disease was playing such havoc in New York and spreading in Philadelphia, I felt that it was all important that we should be prepared to remove cases at once, and therefore was ready, having removed all the cases of general diseases from the hospital which we took over, I was able to transfer the first case that we had to the hospital, and so transferred every subsequent case except five, those being able to give Class A quarantine, which meant absolute isolation at their homes.

On account of the fact that so little is known concerning this disease in epidemic form, we had to take such general precautions as would tend on general principles to prevent its spread. As a result of the method adopted by us, we feel that we should have no hesitancy in comparing the results obtained here with those obtained in other cities. A comparative table will show the following results:

New York—

Poliomyelitis cases reorted	9,420
Number cases treated at home	2,040
Number of deaths reported	2,048

Philadelphia—

Number of cases reported	1,006
Number of cases treated at home	200
Number of deaths reported	307

Boston—

Number of cases reported	485
Number of cases treated at home	65
Number of deaths reported	159

Baltimore—

Number of cases reported	206
Number of cases treated at home	5
Number of deaths reported	70

The Nurses' Division having been consolidated the first of the year and the entire nursing force placed under the direction of a Superintendent and an Assistant Superintendent, has been of the greatest assistance in the detection and control of Infectious Diseases, and under the intelligent and sytematic direction of the Superintendnt and her Assistant, has aided very materially in giving us, from a statistical standpoint, a rating with State and National Health Boards heretofore unknown, but much desired.

The work in the other divisions of the Department has been more thoroughly systematized, which means greater efficiency on the part of those connected therewith.

Respectfully submitted,

Jno D. Blake,
Commissioner of Health.

Report of the Assistant Commissioner of Health.

Dr. John D. Blake,

Commissioner of Health.

Dear Sir:

I submit herewith a report of the work of the Health Department under my supervision during the year 1916:

Births and Stillbirths.

The total number of births, less stillbirths, reported in 1916 was 15,085, as against 13,634 in 1915. Of the births in 1916, 12,662 were white and 2,423 colored. The whole birth rate per 1,000 population was 25.58; the rate for whites was 25.26 and colored 27.39. The total number of stillbirths was 1,235; white 841, colored 394. The number of stillbirths per 1,000 live births in 1916 was: white 66.42, colored 162.61, total 81 87. The live births and stillbirths together total 16,320; the nativity rate being 27.68 per 1,000 on the basis of the entire population.

The total number of illegitimate births was 875; 325 being white and 550 colored. The illegitimate births per 1,000 live births were: white 25.67, colored 22.69, total 58.

It is to be noted that the registration of births shows a decided gain.

General Death Rates.

The total number of deaths in Baltimore City registered as of 1916 was 10,718, as against 10.002 during the preceding year, resulting in a death rate of 18.18 per 1,000 population, calculated on an estimated population as of July 1st, 1916, of 589,621, an increase of 1.08 over the rate of 1915.

The death rate for 1916 for whites was 15.93, as against 15.15 in 1915, and for colored it rose to 30.93, as against 28.18 for 1915. As is explained in the Statistician's report, 50 of the deaths included in the sum for 1916 actually occurred in November and December of 1915, and should have been included in the deaths for 1915. The number of deaths given for 1916 should be 10,669, which would include all the deaths which occurred in the calendar year of 1916. So the actual increase in the number of deaths in 1916 over 1915 was 619, as will be shown later. This increase in the number of deaths is more than balanced by increases in deaths shown from pneumonia, influenza, poliomyelitis, chronic diseases of the heart, blood vessels and kidneys, infantile diarrhœa and enteritis and congenital malformations, which were responsible for an increase of 722 deaths.

Efforts have been made to improve the accuracy of the classification of the causes of death. To this end I personally examined all death certificates for the first half of the year, and continue to closely supervise their classification, with the result that in all doubtful cases, the physician has been requested to furnish additional and more accurate information. In consequence, fewer cases of pulmonary tuberculosis and other communicable diseases are now classified under pneumonia, bronchitis and other causes, and deaths after operations are credited to the lesions for the relief of which the operations are undertaken.

The main causes of inaccuracy have been shown to be ignorance or carelessness on the part of physicians, rather than intent to deceive or to falsify. Many physicians fail to distinguish correctly between the primary and contributory causes of death. The causes of death are very often given erroneously or inadequately on death certificates of individuals dying in hospitals. This is mainly due to the fact that the certificates are usually made out by young internes lacking in proper knowledge. The death certificates from Bay

View and Sydenham (Municipal) Hospitals state the causes of death with greater fullness and definiteness than those from any other hospitals in the City. They are made out by experienced resident physicians, and often based on autopsy findings.

Communicable Diseases.

During 1916 special efforts were made to obtain better reporting of all cases of communicable diseases and to restrict their spread. New rules and regulations concerning isolation, quarantine and disinfection were prepared and the methods for their enforcement by the Department were reorganized. In these activities the reorganized Nursing Division has played a valuable part. An effort has been made to make the work of the Health Wardens less mechanical and more instructive and efficient. They have been impressed with the idea that they are local representatives of the Health Department in their wards and directly responsible for the control of local conditions. With this end in view, numerous consultations have been held with them singly, and in groups, to consider their various problems. As the result their reports have been rendered more fully and promptly. Through their co-operation a number of insipient institutional epidemics of diphtheria, measles and scarlet fever were controlled. Measles, whooping-cough, mumps, varicella, epidemic cerebro-spinal meningitis and poliomyelitis were added to the list of diseases for which houses and apartments are placarded. The use of bands on the arms of children with whooping-cough was instituted.

The Communicable Disease Nurses introduced into the Department during this year have fully demonstrated their worth. They have very materially assisted in isolation, quarantine and in instruction in households with communicable disease.

Your attention is directed to a decrease in the incidence of diphtheria of 36½% and of deaths of 23%; a decrease in the incidence of scarlet fever of 24 %; a decrease in the incidence of typhoid fever of 18.2% and of deaths of 17.1%.

The occurrence of a number of cases of poliomyelitis during the past summer greatly increased the work of all concerned in the control of communicable diseases.

The persistent carrying out in detail of the methods and plans of isolation developed in the last year should gradually reduce the incidence of diphtheria, scarlet fever, measles, whooping-cough, typhoid fever and varicella to lower rates. It is to be hoped that by the application of similar methods the incidence of pneumonia may be decreased. Tuberculosis must be studied intensively as a separate problem. In spite of the good work done by the Health Department and by various other agencies, the rate of decrease is too slow. During the year the bacteriological laboratory has undertaken Wasserman reactions on the blood of individuals who cannot afford to pay when the specimens are submitted by physicians. As soon as possible after the new Bureau of Communicable Diseases, to be established with the new year, is organized, further measures for the diagnosis and control of syphilis should be undertaken by the Health Department.

The accompanying table (No. 1) shows a comparison between 1915 and 1916 of the number of reported cases, with decrease or increase in the number, morbidity rate per 100,000, with increases or decreases in the rate, the number of deaths, with decreases or increases in rate, and, lastly, the fatality.

TABLE NO. 1.

COMPARATIVE TABLE OF CERTAIN COMMUNICABLE DISEASES FOR 1915 AND 1916.

	Cases.	Increase.	Decrease.	Morbidity per 100,000.	Increase.	Decrease.	Deaths.	Increase.	Decrease.	Deaths per 100,000.	Increase.	Decrease.	Fatality.	Increase.	Decrease.
Diphtheria	731	....	420	123.9	.....	72.9	62	...	17	10.5	....	3.2	8.48	1.62	.....
Scarlet Fever	966	....	304	163.8	.....	53.4	30	...	3	5.1	....	.5	3.1	0.5	.....
Typhoid Fever	776	....	173	131.6	.....	29.0	107	...	21	18.1	....	3.7	13.8	0.3	.....
Measles	5407	3561	...	917.0	600.8	....	34	17	...	5.8	2.9	....	0.6	0.3	.....
Whooping Cough	1396	1146	...	236.8	194.0	....	63	42	...	10.7	7.1	....	4.6	.....	3.8
Tuberculosis Pulmonalis	1830	136	...	310.4	20.6	....	1121	23	...	190.1	2.3	....	61.3	.....	3.5
Tuberculosis, Other Forms	....	....	...	.....	.....	....	200	8	...	33.9	1.1	....	.....	.....	.....
Cerebrospinal Meningitis (Epidemic)	16	13	...	2.7	1.5	....	16	10	...	2.7	1.7	....	100.0	.....	100.0
Anterior Poliomyelitis	206	180	...	34.9	30.5	....	70	66	...	11.9	11.2	....	34.0	18.6	.....
Broncho and Lobar Pneumonia	....	....	...	.....	.....	....	1402	222	...	237.8	36.0	....	.....	.....	.....

Diphtheria.

The incidence of diphtheria showed a decrease of 420 cases—a decrease of 36.5%, and a decrease in the number of deaths of 18, or 23% less than in 1915. The fatality was 8.34%, as against 6.86% in 1915. The fact that the fatality was greater than in 1915 seems to point more strongly to the fact that the decrease in the death rate is due to the decrease in the morbidity rate. In January, 1916, a requirement was put in force that before the discharge of diphtheria patients and diphtheria carriers two successive negative cultures from throat and nose, taken at intervals of 48 hours, must be obtained before discharge. The number of calls made by throat inspectors was nearly doubled, being 10,711, as against 5,600 in 1915, and the work of the bacteriological laboratory was correspondingly increased. An important feature in the restriction of diphtheria was the discovery and holding of a number of diphtheria carriers, some of them in connection with institutions. All outbreaks in institutions, whether for children or adults, were restricted to the first few cases. The rule was established that on the outbreak of diphtheria in an institution every inmate is cultured from both nose and throat, and all those giving positive cultures are quarantined until found diphtheria bacillus free.

Scarlet Fever.

In scarlet fever there was a decrease of 304 cases, or 24%, and a decrease in the deaths by 3. This decided decrease in 1916 was apparently due to the application of restrictive measures of isolation and quarantine, for at the beginning of the year we were in the midst of a small epidemic which started in October, 1915, and during the latter months of the present year the number of reported cases was scarcely half of what has been usual in the past.

Measles.

There was a widespread epidemic of measles which began in the fall of 1915. There were reported 5,407 cases, as against 1,846 in the previous year, with 34 deaths, as against 17 in 1915. This is the largest epidemic of measles in Baltimore since 1913, when 5,724 cases were reported. Judging by the fatality, it would appear that the reporting was better in 1916 than in 1915. Since the beginning of the year the placarding of houses containing measles cases has been required.

Whooping-Cough.

Whooping-cough showed a considerable increase both as to morbidity and mortality over 1915. It will be noted, however, that the case fatality decreased considerably, which is explained, perhaps, by improvement in reporting of cases. During 1916 placarding of houses from which cases of whooping-cough are reported and the confining of patients to their own yards were instituted, and after the expiration of three weeks from the beginning of the illness children with whooping-cough are allowed on the streets, provided they wear arm bands.

Typhoid Fever.

Typhoid fever showed a decided decrease in morbidity and mortality during 1916. The incidence of the disease showed a decrease of 173 cases, and the deaths a decrease of 21 in comparison with 1915, a decrease in the morbidity rate of 29 and in the death rate of 3.8 per 100,000. The fatality during 1916 was 13.66%, as against 13.48% for 1915.

Typhoid fever in Baltimore continues to present problems of great interest. The monthly distribution of the cases

and deaths as given in the following table for 1915-1916 is typical of the range for a number of years:

TABLE NO. 2.

	1915.		1916.	
	Cases	Deaths.	Cases.	Deaths.
January	41	11	17	8
February	19	7	18	4
March	28	5	24	2
April	27	6	28	4
May	45	4	30	3
June	59	9	39	7
July	110	14	82	14
August	158	14	175	11
September	186	22	182	20
October	129	12	95	21
November	87	17	52	10
December	60	7	34	2
Total	949	128	776	106

A chart of the reported cases by weeks from 1907 to 1915, inclusive, shows that with the exception of 1910 the greatest number of cases reported for any week in the year occurred between August 8th and October 12th. Except in 1910 during August, September and October, the highest week record was reached usually as a sharp peak standing prominently above the other weeks of the respective years. In 1907 the high point was reached in the week ending September 7th; in 1908, the week ending September 12th; in 1909, the week ending September 7th; in 1911, the week ending August 23rd; in 1912, the week ending October 24th;

in 1913, the week ending August 8th; in 1914, the week ending October 12th; in 1915, the week ending September 22nd. In 1910 the course of the disease was very irregular. The number of reported cases started to rise the last week in July, and those gradually week by week until it reached a high point August 3rd, when there was a slight drop for two weeks, then a considerable rise, then a marked drop over several weeks, followed by a gradual rise going over four or five weeks to another high point, and then remaining at unusually high level during October and November, when it declined to the usual winter level in the latter part of December. For all these years there have been reported a comparatively small number of cases and deaths from typhoid fever during January, February, March, April and May. Usually there is some rise in June. Invariably the number of reported cases and deaths is much greater in July, August, September, and often in October and November, than during the cold months. Another interesting fact is that in none of these years was there any marked increase in the number of cases during the season of heavy winter and spring rains, the "freshet season," so conspicuous in its association with high typhoid rates in cities deriving their water supply from polluted great lakes and from large rivers. During the years under consideration the reported cases and the death rates from typhoid fever were respectively as follows:

In 1907, 1,420 cases, 230 deaths, rate 40.7; in 1908, 1,426 cases, 180 deaths, rate 31.4; in 1909, 1,069 cases, 136 deaths, rate 23.4; in 1910, 1,891 cases, 235 deaths, rate 39.8; in 1911, 1,201 cases, 154 deaths, rate 27.2; in 1912, 1,083 cases, 136 deaths, rate 23.8; in 1913, 1,163 cases, 136 deaths, rate 22.6; in 1914, 757 cases, 130 deaths, rate 22.4; in 1915, 949 cases, 128 deaths, rate 21.8; in 1916, 776 cases, 106 deaths, rate 18.

Factors Determining the Typhoid Fever Rate of Baltimore.

Water—

In 1911, following the severe epidemic of 1910, the treatment of the City's water supply with calcium hypochlorite was begun. This was followed by an immediate reduction in 1911 by over one-third of the cases reported in 1910, and the fall has been continuous, as shown both by the morbidity and mortality rates. In September, 1915, the new filter plant, filtering the water from the Gunpowder River, was put into operation, but chlorine has been added to the filtered water for further safety. When the course of typhoid fever in Baltimore City is studied in connection with the water supply and the chlorinization and filtration of the same, it would seem that during the last few years waterborne typhoid from the City's water supply has been largely, if not entirely, eliminated.

Changes in the Disposal of Sewage –

Until October, 1911, only about twenty per cent. of the City's human waste was disposed of by sewers, and this went directly or indirectly into the harbor. The remainder was taken care of by drop privies and by privy wells. In October, 1911, connections to the new sanitary sewerage system were begun. In 1912 10,030, in 1913 16,035, in 1914 17,623, in 1915 23,333, and in 1916 15,532 new connections to the sanitary sewers were completed. Up to December 31st, 1916, 90,138 permits for connections to the sanitary sewers were issued. As the result of these improvements, by the end of 1916 there had been abandoned 44,211 drop privies, many of which were in most unsanitary condition, 15,823 privy wells and 13,272 old sewer connections which entered into the harbor. In four years, therefore, 73,306 old, unsanitary conditions, many of which probably played a part in the distribution of typhoid fever, were corrected.

Milk Supply—

For a number of years efforts have been made to improve the milk supply. Following the passage of the new milk ordinance in 1908 there was developed a system of dairy farm and dairy inspection which began to show its effects about the time the water supply was chlorinated, namely, 1911. During the last few years a considerable number of pasteurizing plants have been established, so that by the end of 1916 about 60% of Baltimore's milk supply was pasteurized more or less efficiently. Some plants are very well operaetd, but others, particularly some of those operating by the "flash" method, hardly improve conditions. A very large part of the milk, even though pasteurized, is sold from churns or from cans under very unsanitary conditions. Careful study of the milk supply and the conditions under whicb the milk is produced and distributed indicates that a considerable amount of typhoid fever in Baltimore must be milk-borne. When it is considered that typhoid fever has for a long period been common in the rural districts in Maryland as well as in Baltimore, it is evident that there must be many opportunities for the milk to become infected with the typhoid bacillus both on dairy farms and by milk handlers within the City. The investigations made during the year amply support this view.

The definite improvement of the water supply and the development of the sewerage system, with the abandonment of a great number of drop privies and the removal of the bulk of the sewage from the harbor, together with a considerable improvement in the milk supply brought about by better inspection and control, have been beyond doubt three important factors in greatly reducing typhoid fever--in fact, in cutting the typhoid rate in half during the last four or five years. But the problem of reaching a low typhoid rate has not been solved.

With the above facts in mind, on taking up the study of typhoid fever in Baltimore as a new problem, the analogy with Washington's experience after the installation of a purified water supply became at once apparent. It will be recalled that the establishment of a well planned and operated filtration plan in Washington was not followed at once by the expected rapid and marked decrease in the number of cases of typhoid fever, and that a decided fall in the rate was only obtained after an intensive and well planned study of sources of infection other than the City water supply. In Washington the decrease in the rate has been gradual, and the rate is still relatively high when compared with Boston and New York. For these and other reasons it seems likely that the problem in Baltimore and Washington is the same, and to be solved by the same methods.

During 1916 typhoid fever was studied as intensively as possible with the resources available, and the source of infection in each case traced if possible. At the same time efforts for the more effectual control of the milk supply were begun. Carriers were sought for in households, in restaurants, and in connection with dairies and dairy farms. Leaflets giving information in regard to the cause and prevention of typhoid fever were distributed to all households in which cases of typhoid fever were reported, and large numbers of these leaflets were distributed to other households by insurance agents, nursing and other organizations. A canvass was made of all the dairies in the city for workers who had at one time or another had typhoid fever. From the large list of such persons thus collected routine cultures of the bowel and bladder discharges were instituted. This resulted in disclosing two carriers among the workers in dairies in the city. To one of these carriers, a driver on a milk wagon, who also washed the milk cans, ten cases were traced. Investigation of another dairy in the City, among whose customers 24 cases of typhoid fever were

reported in August, revealed no carriers among its employees, but it was found that upon two of the dairy farms furnishing milk to this dairy there had been cases of typhoid fever, on one farm a case ten years ago, and on the other farm two cases during 1915. The possible carrier on the first farm submitted to culture tests, which were negative, and his milk was allowed to be sold. As the possible carriers on the other farm refused to be cultured, that milk supply was permanently cut off and the epidemic promptly stopped. It is interesting that these two milk epidemics occurred at about the same time and at the period of the highest incidence of typhoid fever for the year. With the beginning of the year, in addition to the usual precautions, a new rule was enforced that no milk handler on a dairy farm supplying milk to Baltimore may return to this occupation until negative cultures for the typhoid bacillus have been obtained.

Typhoid Carriers—

During the year special efforts were made to find and restrict typhoid carriers in households as well as elsewhere.

Household Carriers—

In one household in which the father and mother both had typhoid fever in 1912, a young daughter developed the disease in the spring of 1916. Culture tests showed the mother to be a carrier. Four cases in a family, with another case in his own home. were traced to a colored butler, who proved to be a urinary carrier. This man had typhoid fever 15 years ago.

Nine cases that developed among students of a college were traced to a cook in a restaurant, who proved to be a carrier.

In addition to these, a cook in a private family was proven to be a carrier. This woman had given typhoid fever to two members of this family in 1914 and two others in 1915.

It is reasonable, therefore, to suppose that in Baltimore a considerable number of cases are infected through members of the family or servants who are carriers. In this hunt for carriers two hundred and seventy-five culture tests were made.

Including the cases of milk known to be infected by carriers during the year nearly fifty cases of typhoid fever were traced directly or indirectly to typhoid carriers.

Secondary Cases in Households—

Fortunately but few secondary cases followed shortly after the occurrence of primary cases in households.

Water Supplies other than City Water—

During the spring and summer of 1916 systematic study was made of sources of water supply other than the City water supply. The springs in the parks, wells within the city, nearby springs from which bottled waters are sold in Baltimore, and the water supplies of a number of resorts in the neighborhood of Baltimore were systematically studied. As the result a number of wells in the City were found polluted and ordered closed; a number of wells in connection with resorts near the City were reported to the State Department of Health. From the water of a well in the City, to which four cases of typhoid fever were traced, the typhoid bacillus was isolated. With the closure of this well no further cases occurred in the neighborhood.

Bathing in Polluted Water—

Boys and young men often bathe in the harbor and in polluted streams within or near the City. From a few boys

with typhoid fever last summer a history of repeated bathing in the harbor was obtained.

Flies—

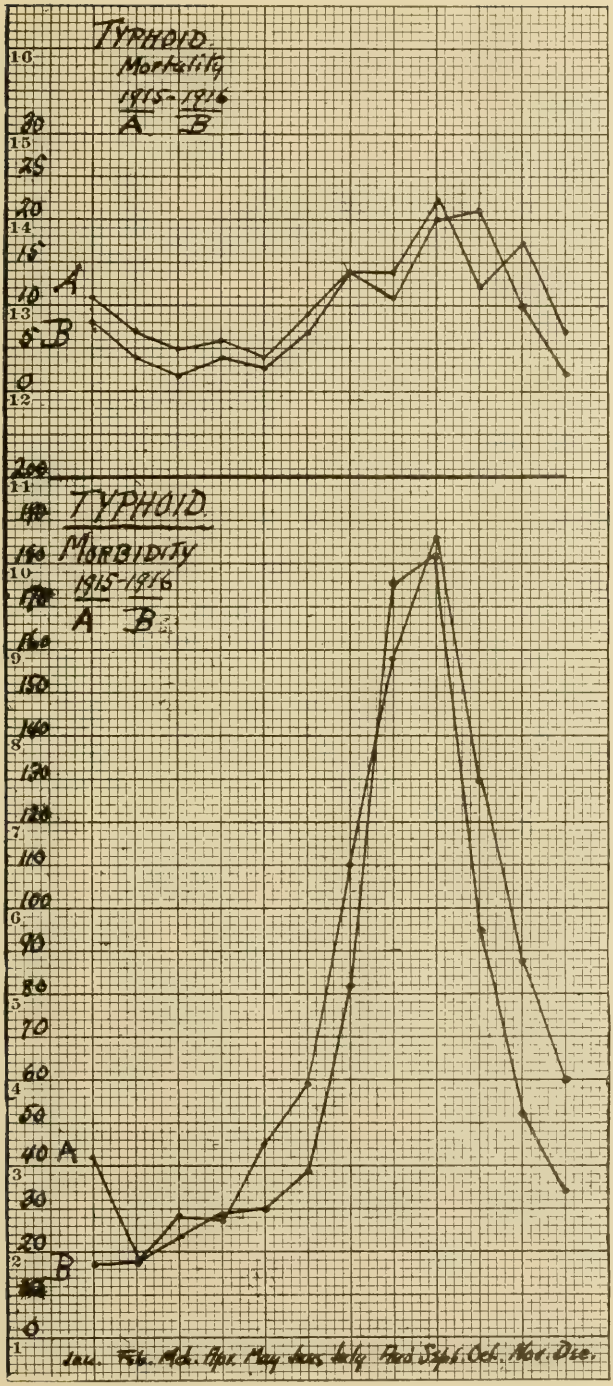
With the enforcement of the garbage can ordinance, the better control of stables, and the abandonment of so large a proportion of the drop privies, it is probable that the activity of the city fly in the spread of typhoid fever in Baltimore has been largely curbed. In the Hampden-Woodberry section, however, which is but imperfectly sewered, a considerable number of cases were probably due to flies. Every effort should be made in the future, however, to do away with the fly.

Outside Infection—

One hundred and twenty-five cases of typhoid fever were classified as out-oftown infections. Most of these were residents who had returned to the city within thirty days from visits to places outside the City. Many of them had been to places in which typhoid fever was known to exist. In this group have been included only those cases in which outside infection seemed reasonably sure. Many of these cases were infected at summer resorts. The largest group infection from outside sources occurred among the members of the Mt. Clare Shops baseball team, who went to Grafton, West Virginia, for a game in August. Of the fifteen members of the team who drank the Grafton water, known to be polluted, nine developed typhoid fever. Persons taken ill in some locality in Maryland outside of Baltimore and brought to Baltimore for treatment at a hospital were, as is the custom, not included in our records, but the cases were reported to the health officers of the places where the attack occurred, to be included in their records. There were some exceptions to this, however, as, for instance, cases brought to the City on foreign steamships, or from other States,

and which were of necessity included as Baltimore cases, although they did not arise here. Of the one hundred and twenty-five outside infections, fifteen belong to this class. It is interesting that the bulk of the cases classified as infected outside of Baltimore occurred in July (19), August (23), September (46), October (18)—that is, during the usual vacation time and the period of the greatest incidence of the disease. The source of infection of 601 cases of the 774 was not satisfactorily explained.

The morbidity and mortality of typhoid fever for 1915 and 1916 compared by months, in five-day periods, and the distribution of typhoid morbidity, mortality and fatality by age, 1916, are shown in the following charts:


TYPHOID
Mortality
1915-1916
A B
A
B
TYPHOID
MORBIDITY
1915-1916
A B
A
B
Jan. Feb. Mch. Apr. May June July Aug. Sept. Oct. Nov. Dec.

Summary—

In the six-year period from 1911 to 1916, inclusive, the mortality rate from typhoid fever has dropped from 39 to 18 per 100,000 population, and beginning with 1911 three conspicuous factors have been active in bringing about this result. These factors were an improved water supply, the development of the sewerage system with the abandonment of 44,211 drop privies, and improvement in the milk supply by more thorough inspection and control, together with more or less effective pasteurization of an increasing proportion of the milk supply.

When the invariable influence of season on the prevalence of typhoid fever in Baltimore, which I have above pointed out, is considered, very strong reasons appear for suspecting that milk is now the chief vehicle for the distribution of the cause of typhoid fever in Baltimore. The argument runs as follows: There is ample evidence that the typhoid bacillus frequently gains entrance to much of the milk supply; the mean temperature in Baltimore from December to June is below the point favorable for the rapid multiplication of the typhoid bacillus in market milk, and during these months the incidence of typhoid fever is comparatively low; during the hot months, namely, July, August and September, when the temperature is most favorable for rapid multiplication of the typhoid bacillus in milk, the cases rapidly increase in number until the zenith for the year is reached, and after this they gradually fall off until by the last of November or in December the disease reaches the low range of the winter and spring months.

Expressed in a different way, it may be said that the greater number of cases of typhoid fever in Baltimore occur during the period in which conditions are most favorable for the rapid multiplication of typhoid bacilli reaching the milk supply, and during the season in which the bulk of

the milk is under usual conditions held at a temperature below the point favorable for the multiplication of the typhoid bacillus the number of cases is relatively few. It may be assumed, however, that even during the winter and spring months a certain number of cases of typhoid fever are due to infected milk, for not all milk is refrigerated in the households, and it is very likely that some of it may be kept at temperatures favorable for the multiplication of the typhoid bacillus.

In support of the theory that infected milk is at present largely responsible for typhoid fever in Baltimore is the significant fact that in the summer of 1916 during the period of the highest incidence of the disease thirty-four cases were directly traced to the milk of two dairies.

For the above reasons, among others, I have urged compulsory adequate pasteurization, bottling and grading of milk.

On theoretical grounds it is also to be expected that typhoid carriers other than those connected with the milk supply should also be the source of infection for more cases in the hot than in the cold months.

As the result of the studies made on typhoid fever during the past year it would appear that further marked reductions in the incidence and mortality of this disease are to be sought for in: (1) A more drastic control of the milk supply, with scientific grading and pasteurization of the milk, sterilization of bottles and apparatus, and the delivery of all household milk in bottles; (2) continued active search for typhoid carriers in connection with the milk supply, in public eating and drinking places and in households; (3) the closing of all wells and any polluted springs within the City limits; (4) more extensive use of antityphoid vaccination; (5) forbidding bathing in the harbor and polluted streams; (6) the better and more effectual control of typhoid fever throughout the State through the activities of the State

and local Boards of Health; (7) the education of the public in regard to the methods of avoiding typhoid fever while abroad as well as at home.

Paratyphoid Fever—

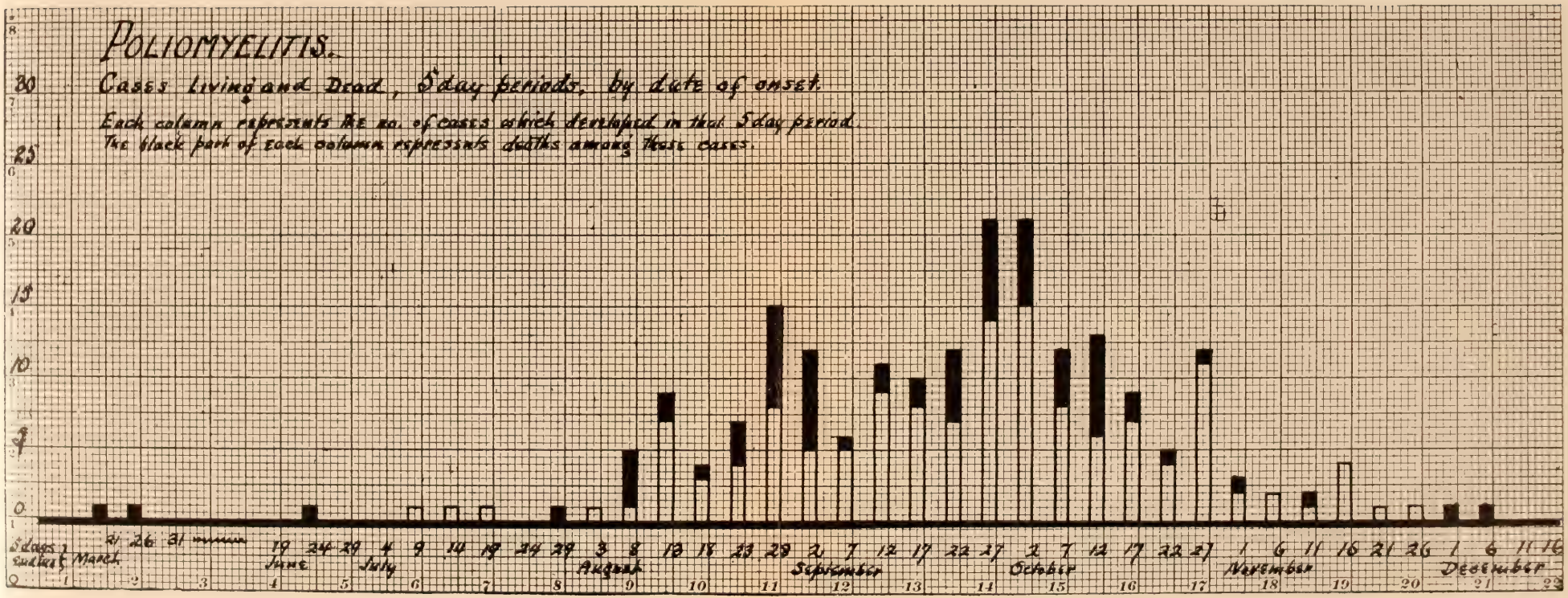
During 1916 there were reported 29 cases of paratyphoid fever, with no deaths. Previous to this year I find no separate report of paratyphoid fever.

Poliomyelitis.

In 1916 there were 206 cases and 70 deaths from poliomyelitis reported, as against 26 cases and 4 deaths in 1915. Table No. 8 gives a comparison of the mortality and morbidity rates for poliomyelitis by months for the two years. The cases were tabulated according to date of report and not date of onset:

TABLE NO. 3.

	1915.		1916.	
	Cases.	Deaths.	Cases.	Deaths.
January	....	....	....	....
February	....	....	....	....
March	....	....	2	2
April	....	....	....	....
May	....	....	....	....
June	1	1	....	....
July	11	2	3	1
August	13	....	37	16
September	1	1	71	24
October	....	....	74	21
November	....	....	17	4
December	....	....	2	2
Total	26	4	206	70


POLIOMYELITIS.
Cases living and Dead, 5 day periods, by date of onset.
Each column represents the no. of cases which developed in that 5 day period.
The black part of each column represents deaths among those cases.
30
25
20
15
10
5
0
5 days ending March
26 31
19 24 29 4 9 14 19 24 29 3 8 13 18 23 28 2 7 12 17 22 27 2 7 12 17 22 27 1 6 11 16 21 26 1 6 11 16
June
July
August
September
October
November
December
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

It will be noted that in 1916 the summer incidence of the disease was a month later than in 1915. In both years the disease ran a rather characteristic course for the epidemic form, but in 1916 the incidence of the disease was considerably over four months, as against two in 1915. The outbreak of new cases in 1916 stopped abruptly after a decided cold snap about the middle of October.

The relation of the disease to the epidemic in New York and Pennsylvania could not be clearly traced. In March two cases of the disease occurred in the crowded part of the northwestern section of the city. On July 12th a case developed in a young child four days after its arrival with its mother from Brooklyn, N. Y. The child stayed in the home of an aunt on Hamburg street, in the Twenty-first Ward. No other case developed in this neighborhood, and the mother and child left for New York immediately after recovery. The second case traceable to New York was reported a few days later in a Baltimore child who was exposed to his young cousin who came a few days before from Brooklyn to escape the disease. The Brooklyn child showed no symptoms of illness. No other cases occurred in this neighborhood. Later in July and in August there was an outbreak of a large number of cases in the Fourteenth and Sixteenth Wards. There were a few cases in the Thirteenth Ward near North avenue, and in the Fifteenth Ward, but a considerable number of cases broke out in the rather restricted area of the Twelfth Ward and extended north through the Thirteenth Ward to the City limits. The disease also extended to the eastern portion of the Twelfth Ward and into the Eighth and Ninth Wards. On the west side it extended down into the Nineteenth Ward, with a few cases in the neighboring wards. There were a few scattered cases in the East Side wards. Altogether there were foci of cases in every part of the City. The crowded Jewish and negro sections on the East Side escaped with but relatively

few cases, while among the same races in the northwestern section there was a considerable number of cases. Late in September in a boarding school for girls in the Eleventh Ward the disease developed in a girl of 16 who had recently spent a few days in New York City. No secondary cases occurred in this school.

The epidemic was well under way by the 20th of August, and by this time a considerable number of fatal cases was reported, without accurate history and with no convincing evidence that the diagnosis was correct. It was then found necessary to demand an autopsy in every fatal case. In the early part of the epidemic a good many cases were sent to Sydenham and the Harriet Lane Hospitals. Later the City made arrangements for taking over the Children's Hospital School and for the receipt of cases in Kernan's Hospital and the Robert Garrett Hospital. To the authorities and staffs of all these institutions the Health Department is under deep obligations.

The quarantine measures adopted were general and local. The general quarantine restrictions were in the hands first of the State Board of Health and later in the hands of the United States Public Health Service. Owing to lack of funds, the restrictions imposed by the State authorities on children from the infected districts North and East were very inadequate. There was practically no restriction on transportation by automobile.

The Health Department of Baltimore City was able in a short time to establish a fair degree of control upon travellers in and out of Baltimore City by railroad lines and steamboats, and to isolate and to follow up children admitted from non-infected areas but passing through New York and Philadelphia. No cases of disease developed among these children. The Health Department received valuable assistance from the officers of the United States Public Health Service detailed in Baltimore to assist in this work.

The methods of administrative control, isolation and quarantine employed in New York City, with the exception of general hospitalization of cases were adopted from the outset. It was not possible, however, to adopt hospitalization of cases on a large scale until early in September, after which no cases were allowed to remain in their homes unless satisfactory isolation of the patient with a trained nurse could be established. Altogether, 141 cases were treated in hospitals. In only a few instances did more than one case occur in the same household. In one apartment house bordering on a park and occupied by well-to-do people, out of some twenty children seven cases of poliomyelitis developed. These cases were in two families. In one family two children and in the other five children were affected. In each instance all the children in the family had the disease. All of the children affected in this apartment house were taken sick within a short time of each other. In another family two young children had been ill with gastro-intestinal upset a few days before the development of symptoms among the children who developed poliomyelitis. Of the seven children affected four had frank cases of poliomyelitis with paralysis and one death; the others had abortive cases with positive cerebro-spinal fluid. It was not possible to trace directly the source of infection in this apartment house, but it was stated that one of the families affected had entertained an adult visitor from New York a few days before the children were taken sick. In other parts of the City there were six families with two cases in the same house, the second occurring a few days after the first. There was one instance of three cases in the same house and family, and another instance of two cases in the same house but different families. Altogether there were more than one case in nine houses distributed as follows:

2 cases in the same family..... 7 instances.
3 cases in the same family..... 1 instance.

5 cases in the same family..... 1 instance.
2 cases in the same house, but in different families... 1 instance.
7 cases in the same house, but in different families... 1 instance.

With two exceptions, no cases occurred in institutions for children. One of these exceptions was the boarding school before mentioned, in which no secondary case occurred. Another was an institution housing a number of colored girls. One of the inmates who had recently returned to the institution from a vacation came down with the disease and was promptly removed to a hospital. No secondary cases developed in the institution. It was a common occurrence in certain sections of the City for the disease to spread along streets and through neighborhoods, but definite evidence of contact either through children or adults exposed to previous cases was but rarely obtained. The clearest history of contact infection of this nature was that of a young baby who, a few days before it came down with the disease, was kissed by a neighbor living across the street and whose child had the same day died of the disease.

As the result of rather intensive observation and study it may be stated on the whole that in spite of hospitalization of the patients and elaborate efforts to quarantine all ascertained contacts, very little evidence of a convincing nature was obtained that these measures seriously interfered with the spread of the disease. In many instances the occurrence of a case in a neighborhood was followed by the outbreak of a number of other cases, while in other instances no other cases occurred. Although the greatest incidence of the disease was at the beginning in a densely populated area, primary cases breaking out in other areas of equal density of population were often not succeeded by secondary cases. The epidemic course of the disease was run in about three months and a half, but as previously stated, the incidence of numbers of new cases ceased abruptly after the cold snap about the middle of October.

In regard to diagnosis, our experience emphasizes the value of the three things, namely, (1) the use of an experienced diagnostician responsible for the diagnosis of all clinical cases; (2) the diagnostic importance of the cell count and globulin content of the cerebro-spinal fluid obtained by lumbar puncture; and (3) the importance of post-mortem examination in all fatal cases, particularly those dying before the diagnostician was called. Dr. C. Frank Jones, the Health Warden of the Fifteenth Ward, devoted his time in the heighth of the epidemic to diagnosis work. To him for conscientious and self-sacrificing work the City is under deep obligation. The Department is also under obligations to Drs. Blackfann and Maxey, of the Harriet Lane Home, for their routine work in making lumbar punctures and examining the cerebro-spinal fluid, and to Drs. Burroughs and Schmeisser, of the pathological laboratory of the Johns Hopkins Hospital, for making the autopsies and furnishing the department promptly with diagnoses based on accurate microscopic examinations of the central nervous system.

The morbidity, mortality and fatality, the distribution of the disease by sex, age and color, etc., are given in the following tables:

TABLE NO. 4.

	Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.
Male. White.	80 39%	30 44%	Female. White	69 33%	21 28%	Total. White.	149 72%	51 72%
Male. Colored.	27 13%	9 13%	Female. Colored.	30 15%	10 15%	Total. Colored.	57 28%	19 28%
Total. Male.	107 53%	39 57%	Total. Female.	99 47%	31 45%	Total.	206 100%	70 100%

TABLE NO. 5.

39% of morbidity and	44% of mortality was among White Males.
13% of morbidity and	13% of mortality was among Colored Males.
33% of morbidity and	28% of mortality was among White Females.
15% of morbidity and	15% of mortality was among Colored Females.
100%	100%

53% of morbidity and	57% of mortality was among Males.
47% of morbidity and	43% of mortality was among Females.
100%	100%

72% of morbidity and	72% of mortality was among Whites.
28% of morbidity and	28% of mortality was among Colored.
100%	100%

TABLE NO. 6.

Fatality among White Males.	=37.5%
Fatality among White Females.	=28.0%
Fatality among Colored Males.	=33.3%
Fatality among Colored Females.	=33.3%
Fatality among Males.	=35.9%
Fatality among Females.	=29.6%
Fatality among Whites.	=34.2%
Fatality among Colored.	=33.3%
Fatality among all reported cases.	=33.98%

TABLE NO. 7.

DISTRIBUTION OF MORBIDITY AND MORTALITY BY AGE.

Age.	Morbidity.		Mortality.		Fatality.
0 to 1	37	17.56%	13	16.17%	35.14%
1 to 2	43	20.98	16	23.53	37.20
2 to 3	53	25.86	16	23.53	30.19
3 to 4	26	12.69	5	7.35	19.23
4 to 5	16	7.80	5	7.35	31.25
5 to 6	9	4.39	3	4.42	33.33
6 to 7	5	2.44	2	2.94	40.00
7 to 8	3	1.46	3	4.42	100.00
8 to 9	3	1.46	2	2.94	66.66
9 to 10	3	1.46	1	1.47	33.33
10 to 15	3	1.46	2	2.94	66.66
15 to 20	3	1.46	1	1.47	33.33
20 to 25	2	.98	1	1.47	50.00
Total.	206	100%	70	100%	33.98%

Epidemic Cerebro-spinal Meningitis

During the year there were 19 reported cases and 16 deaths. The disproportion between the number of cases and deaths reported indicates, of course, that the cases were inadequately reported.

Smallpox.

There were no cases of smallpox reported during the year 1916.

Leprosy.

A case of leprosy was reported in June, and the individual sent to the Quarantine Station.

"Parks.")

Pneumonia.

There was a marked increase in the number of deaths from pneumonia (222), an increase of 15.8 % over the mortality rate of 1915.

Influenza.

The deaths from influenza were 32 more than in 1915, an increase of 24.8% in the mortality rate from this disease.

Tuberculosis.

There was a slight increase in the number of deaths, 31, and in the death rate, .03 per 1,000, over 1915 for tuberculosis (all forms). The rates for whites remained the same, and the whole increase in the rate for 1916 was in the colored race. In pulmonary tuberculosis there was a slight increase (.02) in the total death rate per 1,000, and an increase of .05 of whites and a decrease of .07 for colored. For forms of tuberculosis other than pulmonary there was a decrease in the rate per 1,000 of .04 for whites and increase of .29 for colored, resulting in an increase for both together of .01. Comparison of the three tables for tuberculosis for

the years 1912-1916, inclusive, shows that from 1912 to 1915, inclusive, there has been a considerable improvement in the rate for whites, but very little improvement for negroes. The ratio in 1916 for all forms of tuberculosis of the death rates of white to colored is 1 to 3.6, with the result that the rate for colored is 260% more than for whites.

TABLE NO. 8.

PULMONARY TUBERCULOSIS.

Year.	White.		Colored.		Total.	
	Deaths.	Death Rate per 1,000 of Pop.	Deaths.	Death Rate per 1,000 of Pop.	Deaths.	Death Rate per 1,000 of Pop.
1912....	771	1.60	418	4.84	1189	2.09
1913....	743	1.52	395	4.55	1138	1.98
1914....	745	1.51	400	4.58	1145	1.98
1915....	673	1.35	425	4.83	1098	1.88
1916....	700	1.40	421	4.76	1121	1.90
TUBERCULOSIS—OTHER FORMS.						
1912....	129	1.27	75	0.87	204	0.36
1913....	125	0.26	78	0.90	203	0.35
1914....	109	0.22	90	1.03	199	0.34
1915....	125	0.25	67	0.76	192	0.33
1916....	107	0.21	93	1.05	200	0.34
TUBERCULOSIS—ALL FORMS.						
1912....	900	1.86	493	5.71	1393	2.45
1913....	868	1.78	473	5.45	1341	2.33
1914....	854	1.74	490	5.61	1344	2.32
1915....	798	1.61	492	5.60	1290	2.21
1916....	807	1.61	514	5.81	1321	2.24

During the past five years, 1912-1916, the death rate per 1,000 population for pulmonary tuberculosis has fallen from 2.09 to 1.9, and for all forms of tuberculosis from 2.45 to 2.24. It is evident that progress in the control of tuberculosis has not been satisfactory, and that a thorough study of the factors involved and the application of more radical measures are demanded. The Baltimore death rate (1.9 per 1,000 population) for pulmonary tuberculosis is higher than the rates of Boston (1.469), New York (1.5), Philadelphia (1.704), but this is largely explained by the difference in the proportion of negro population. In Boston and New York the negro population is about 2% of the white, in Philadelphia about 5%, and in Baltimore 15%. The Baltimore rate for whites (1.4) is actually lower than the rates for the total population of Boston and New York, with their very small percentage of negroes.

The reporting of cases of pulmonary tuberculosis has been very much improved in the past year. This is very largely the result of the twenty-five per cent. increase in the nursing force. The nurses in the field now have more time to hunt out new cases in their districts. The number of cases on the visiting list of the Tuberculosis Division increased from 4,167 on December 31st, 1915, to 4,702 on December 31st, 1916. These 4,702 cases on the visiting list represent not the whole number of reported and known cases, but those of the total number of registered cases for which permission to visit for instruction has been obtained from the physician, or from the family. Of the 4,702 cases on the visiting list, 3,823 were white and 879 negroes, representing per 100,000 population a case incidence for the whole population of 797.5, for whites of 763.8 and for negroes of 993.6. That this figure does not represent the true relative case incidence among negroes, but is much too low, is evident from facts at hand.

Of the 4,702 listed cases, there died during 1916 980, or 20.8%; 670 or 17.55% for whites, and 309 or 35% for negroes. One hundred and nine deaths of white patients on the visiting list dying in 1916 died at sanatoria (exclusive of Bay View) in Maryland, but outside of Baltimore City, and are not countable among city deaths. With this adjustment, it is found that of the total number of deaths from pulmonary tuberculosis there were on the visiting list 79.7%, of the white deaths 84.1% and of the negro deaths 71%.

TABLE NO. 9.

YEAR IN WHICH CASES OF PULMONARY TUBERCULOSIS DYING IN 1916 WERE REPORTED.

1910—Whites,	31;	Per Cent.,	4.62.	Negroes,	4;	Per Cent.,	1.29.
1911—Whites,	9;	Per Cent.,	1.34.	Negroes,	4;	Per Cent.,	1.29.
1912—Whites,	29;	Per Cent.,	4.32.	Negroes,	2;	Per Cent.,	0.65.
1913—Whites,	44;	Per Cent.,	6.56.	Negroes,	6;	Per Cent.,	1.94.
1914—Whites,	56;	Per Cent.,	8.35.	Negroes,	14;	Per Cent.,	4.53.
1915—Whites,	208;	Per Cent.,	30.99.	Negroes,	74;	Per Cent.,	23.95.
1916—Whites,	293;	Per Cent.,	43.66.	Negroes,	205;	Per Cent.,	66.34.

Total Deaths—Whites, 671; Negroes, 309.

Per Cent. reported prior to 1916—Whites, 56.34; Negroes, 33.66.

Table No. 10, in which the cases dying in 1916 are analyzed according to the year in which they were reported, seems to indicate that whites with pulmonary tuberculosis live much longer than negroes with this disease.

As there is an impression among the nurses that cases of pulmonary tuberculosis in negroes are very commonly reported much later in the disease than in whites, the cases in the two races reported and dying in 1916 are analyzed in:

TABLE NO. 10.

TIME ELAPSING BETWEEN DATE OF REPORT AND DATE OF DEATH OF CASES OF TUBERCULOSIS REPORTED AND DYING IN 1916.

Under One Week—
Whites, 43; Per Cent., 14.68. Negroes, 30; Per Cent., 14.85.
One to Two Weeks—
Whites, 34; Per Cent., 11.60. Negroes, 25; Per Cent., 12.38.
Two to Four Weeks—
Whites, 47; Per cent., 16.00. Negroes, 44; Per Cent., 21.78.
One to Two Months—
Whites, 48; Per Cent., 16.38. Negroes, 46; Per Cent., 22.77.
Two to Three Months—
Whites, 29; Per Cent., 9.9. Negroes, 28; Per Cent., 13.86.
Three to Four Months—
Whites, 32; Per Cent., 10.92. Negroes, 11; Per Cent., 5.45.
Four to Six Months—
Whites, 33; Per Cent., 11.26. Negroes, 13; Per Cent., 6.44.
Six to Nine Months—
Whites, 23; Per Cent., 7.85. Negroes, 5; Per Cent., 2.48.
Nine to Twelve Months—
Whites, 4: Per Cent., 1.37. Negroes, 0; Per Cent., 0.00.
Total Deaths—
Whites, 293. Negroes, 202.

This analysis shows that in the two races the percentage dying within the first two weeks after reporting is almost the same; of those dying from the end of the second week to the third month the percentage is much higher in negroes than in whites, and, correspondingly, the percentage of negroes surviving the third month after reporting is much smaller than that of the whites. So it would appear to be established that reporting of cases of pulmonary tuberculosis is much more thoroughly done among whites than among negroes, and that the cases among the negro population are reported later in the course of the disease than among the whites. According to statements of physicians and nurses, negroes with symptoms of pulmonary tuberculosis are not only less willing than whites to apply to physicians and dis-

pensaries for diagnosis and advice, but are much more apt to attempt to conceal cases than whites. There is, however, no evidence in our local experience to show that the disease is more rapidly fatal in negroes than in whites. On the contrary, it is not unusual to find in the history of cases in negroes evidence that the disease dates back several years.

Pin maps of the cases on the nurses' visiting list during 1916, and pin maps showing the distribution of the fatal cases during 1914, 1915 and 1916, indicate that in Baltimore, as in other large cities, the incidence of the disease is in general greatly influenced by density of population. While in certain sections the connection between overcrowding in narrow streets and alleys and the incidence of tuberculosis is clear, yet on the other hand, about certain parks and open spaces, and in newly developed sections, with good or relatively good housing conditions, reported cases and deaths are much higher than would be expected. The nurses furnish evidence that some at least of the cases in these apparently well favored localities have moved from less desirable sections with the hope of benefit.

A large insurance company has furnished me a list of blocks and parts of blocks in certain streets and alleys of the City in which on account of the general high death rate it refuses to issue policies. Their experience has demonstrated that those living in these proscribed areas are bad risks. A comparison of the company's proscribed areas with our pin maps shows that these areas give a high incidence of pulmonary tuberculosis.

Our efforts to get physicians to report cases more promptly and to return correct death certificates in fatal cases of tuberculosis have produced encouraging results, but in both respects there is still large room for improvement.

The efficiency of the Tuberculosis Division, particularly in regard to the more careful supervision and instruction of tuberculous patients, the keeping of accurate records and in

getting cases in the registration and visiting lists, shows considerable improvement.

One of the most serious needs in the fight against tuberculosis is increased hospital facilities for the isolation and care of those advanced cases of pulmonary tuberculosis for whom adequate safeguards against the infection of others cannot be established in their homes.

Non-Communicable Diseases.

Infantile Mortality—

There was an increase in the number of deaths due to congenital malformations of 56, and from enteritis and diarrhœa in children under two years of age of 101 over the previous year.

Except for efforts to control the milk supply and attempts at public instruction through the newspapers and schools, the Health Department is now able to do little to reduce infantile mortality from diarrhœa and summer complaint. At present this fight is left practically entirely to private agencies. The ordinance for the pasteurization and grading of milk now being prepared should, after its passage, cause a decided drop in the illness and in the number of deaths of infants under two years of age. In addition to this, a more extensive campaign should be inaugurated to educate the people in the proper feeding and care of babies. During the coming summer, if possible, at least some of the school nurses and communicable disease nurses should be detailed to this work, as a step to the formation of a division of child hygiene.

Chronic Degenerative Diseases—

Chronic diseases of the heart and blood vessels, including cerebral hemorrhage and chronic nephritis, show an increase of 246 deaths over 1915. These diseases, together with congenital malformations and infantile diarrhœa, were responsible for 403 more deaths in 1916 than in 1915. No adequate

local reason is apparent for this marked increase in the number of deaths from chronic degenerative diseases in the past year. For some years there has been in this country generally an increase in the death rate from these diseases. It is partly accounted for by the fact that a larger proportion of the population survives to middle life. The reduction in the rates for the chronic degenerative diseases would, no doubt, be materially influenced by restriction of the venereal diseases and intemperance in food and drink, and the further substitution of machinery for human labor in trades and occupations in which the lifting of heavy loads is required.

TABLE NO. 11.

CHIEF CAUSES OF INCREASE IN THE DEATH RATE IN 1916.

Acute Communicable Diseases:		
Influenza	32	
Pneumonia	222	
Poliomyelitis	66	
		320
Infantile Mortality:		
Congenital Malformations	56	
Diarrhoea and Enteritis	101	
		157
Chronic Degenerative Diseases of the blood vessels and kidneys		246
		723

Total increase of deaths of 1916 over 1915—619 (see page 12).

It will be seen from the above that the increase in the number of deaths has been very largely due to diseases the control of which is so far either very difficult or impossible.

In comparing the general morbidity and mortality rates, as well as both rates for various diseases, with those of other cities, it is necessary to recall that negroes comprise 15% of our population. The following table shows the relation between the death rate of negroes and whites for certain diseases:

TABLE NO. 12.

COMPARISON OF MORTALITY RATES PER 100,000 OF WHITE AND COLORED RACES FOR CERTAIN DISEASES IN BALTIMORE FOR 1916.

Diseases.	Death Rate per 100,000. White.	Death Rate per 100,000. Colored.	Ratio of Death Rate White to Colored.	Per Cent. Increase of (Colored over White.)	Per Cent. Decrease of (Colored over White.)
Pulmonary Tuberculosis	139.7	476.0	1 to 3.41	240.7	
All forms of Tuberculosis	161.2	581.0	1 to 3.61	260.4	
Pneumonia (all forms)	188.1	514.4	1 to 2.73	173.4	
Syphilis	12.4	99.5	1 to 8.02	702.4	
Influenza (La Grippe)	20.6	31.7	1 to 1.54	53.9	
Anterior Poliomyelitis	10.0	22.6	1 to 2.26	126.0	
Diphtheria	10.7	6.8	1 to 0.64	....	36.4
Whooping Cough	8.8	22.6	1 to 2.57	157.0	
Typhoid Fever	18.0	19.2	1 to 1.07	6.7	
Puerperal Septicemia	4.6	13.6	1 to 2.52	152.2	
Scarlet Fever	6.0	....	1 to ...	....	0
Diarrhoea & Enteritis (under 2 years)	85.8	170.1	1 to 1.98	98.5	
Chronic Heart Disease	181.1	350.1	1 to 1.93	93.3	
Cerebral Hemorrhage	111.4	169.1	1 to 1.53	53.5	
Chronic Nephritis	148.8	189.1	1 to 1.28	27.7	
Arteriosclerosis	30.7	29.4	1 to 0.96	....	4.23
Congenital Debility	70.4	117.6	1 to 1.67	67.0	
Cirrhosis of Liver	14.3	12.4	1 to 0.87	....	13.3
Cancer	110.0	96.1	1 to 0.87	....	12.6
Suicides	18.0	4.5	1 to 0.25	....	75.0
Accidents	61.9	78.0	1 to 1.26	26.0	
General Rate—					
Deaths due to all causes	159.0	309.3	1 to 1.95	94.5	

Total Rate—183 per 100,000.

It is interesting to note that in typhoid fever the percentage of increase of the negro over white is only 6.7%, and that in diphtheria the death rate is 36.4% less in the negroes than in the whites, and that no deaths from scarlet fever were reported among negroes in 1916. Nearly 40% of the deaths from tuberculosis in Baltimore City occur in 15% of the population.

These figures are startling. From their study it becomes evident that the conditions responsible for them cannot be remedied by the Health Department alone. That the housing problem is greatly responsible for these conditions is evident. It is equally evident that improved housing conditions alone will not solve the problem. In connection with housing conditions it must be remembered that in a large proportion of cases of infectious diseases among negroes satisfactory isolation is now impossible and that adequate facilities for the hospitalization are lacking. One of the most difficult aspects of the question is racial susceptibility, or lack of natural resistance among the negroes to certain diseases, which will only be overcome after a long period of time or by the development of new means of preventive inoculation. It seems clear that one of the most important factors concerned in the disease problem of the negro is the adoption of all feasible methods of raising individual resistance. Granted fair housing conditions and an income adequate to provide proper food and raiment, there still remains the important question of education in the fundamental principles of health. Of these, diet is one of the most important. This involves, of course, instruction in purchasing, selecting and preparing a balanced ration. In addition, some methods must be developed for widespread instruction in the principles of personal hygiene. This can perhaps best be done through the schools.

Reorganization of the Nursing Division.

During the year 13 additional nurses and an assistant superintendent of nurses have been added to the nursing corps. All of the 35 nurses of the Department have been brought together into a single nursing division under a superintendent and an assistant superintendent of nurses. The school nurses, whose number has been increased by 100% to 10, and who in the past very infrequently came to the Department, are now required to make complete and accurate reports of their work and to report to the Nursing Division for instruction and the filing of reports at stated intervals. New rules and regulations have been written for the Nursing Division and its various services. Full data in regard to the activities of the Nursing Division is presented in the report of the superintendent.

School Inspection.

During the year there have been frequent meetings in the Department of the school physicians for the discussion of methods of improving this work. The previous system has been modified and elaborated, and as the result of this, the increase in the number of the nurses, and the more efficient control and supervision of the latter, the work of school inspection has expanded and been made more satisfactory.

Paving of Private Alleys.

During 1916 the Department of Health has condemned as nuisances and required the paving of all the unpaved or roughly paved private alleys in the City. The inspection and reference of these alleys to me, and the sending out of the necessary double notices for the paving of the same, has entailed an enormous amount of inspection and clerical work on the part of the Health Wardens. During the year

1824 orders to pave private alleys were referred by me to the Highways Engineer. The Department's work in regard to this much needed civic improvement will soon be completed.

The Laboratories.

As appears in the account of the Department's activities in the control of various communicable diseases, particularly diphtheria and typhoid, the demands upon the chemical and bacteriological laboratories were considerably increased during the year. Their use in the diagnosis and control of infectious diseases should be still further expanded.

In the future, examinations of cerebro-spinal fluids from cases of suspected meningitis and poliomyelitis, and in cases of the latter histiological examination of the central nervous system, should be conducted by the bacteriological laboratory.

Respectfully submitted,

W. T. Howard,
Asst. Commissioner of Health.

TABLES OF VITAL STATISTICS

OF BALTIMORE CITY

FOR THE YEAR ENDING DECEMBER 31, 1916

Explanatory Note in Regard to Number of Deaths and Death Rate for 1915 and 1916.

The total number of deaths given in the table as compared with 1916, namely, 10,719, is 50 more than actually occurred during this year. It had been the custom of the Department to include as deaths for the year only those for whom death certificates were presented during the calendar year. As this is misleading and not in accordance with the practice of the Census Bureau, this practice has been changed and the proper practice adopted for 1916. It constantly happens that the death certificates of a number of individuals dying in December do not reach the Department until some time in January of the following year. In January, 1917, 72 such certificates of death of individuals dying in December were received for file and for burial permits. These I have thrown back into December, 1916, where they properly belong. In January, 1916, 50 death certificates of individuals dying in 1915 were received by the Department. As the figures for 1915 have already been published, it is impossible to throw them back into 1915, where they properly belong. So the number of deaths as given in our tables for 1916 is too large by 50. Beginning with 1917, the deaths for Baltimore as given by the Health Department will correspond with those of the United States Census Bureau, as they should.

The correct figures would be, for 1915, 10,052 instead of 10,002, and for 1916, 10,669 instead of 10,719.

On account of this adjustment there must be a slight error in certain of the rates and percentages from these figures for 1916.

VITAL STATISTICS FOR THE CITY OF BALTIMORE FOR THE YEAR ENDING DECEMBER 31, 1916.

Estimated Population (as of July 1, 1916).

White	501,155
Colored	88,466
Total	589,621

Births Reported.

White males	6,535
White females	6,127
Total white	12,662
Colored males	1,225
Colored females	1,198
Total colored	2,423
Total births reported	15,085

Birth Rate Per 1,000 of Population.

White	25.27
Colored	27.39
Total	25.58

Total Mortality.

White males	4,256
White females	3,727
Total white	7,983
Colored males	1,400
Colored females	1,336
Total colored	2,736
Total mortality	10.719

Mortality Rate Per 1,000 of Population.

White	15.93
White, less non-residents	14.81
Colored	30.93
Colored, less non-residents	28.89
Total	18.18
Total, less non-residents	17.08

Mortality, Principal Causes.

Typhoid fever	107
Measles	34
Scarlet fever	30
Whooping cough	63
Diphtheria and croup	62
Influenza	129
Dysentery	7
Pulmonary tuberculosis	1,121
Other forms of tuberculosis	200
Syphilis	150
Cancer	636
Diabetes	122
Anaemia	25
Locomotor ataxia	9
Paresis	29
Diseases of the heart	1,218
Arterio sclerosis, atheroma, aneuryism, etc	180
Bronchitis	123
Pneumonia	1,402
Diarrhoea and enteritis, under two years	581
Diarrhoea and enteritis, over two years	83
Cirrhosis of the liver	83
Bright's disease	914
Puerperal hemorrhage	12
Puerperal septicaemia	35
Puerperal convulsions	28
Sunstroke and heat	12
Accidents	379
Suicides	94
Homicides	53
Mortality, children under five years	2,455

Deaths in Public Institutions, etc.

Baltimore City Jail	9
Penitentiary	19
Hospitals and asylums	3,316
Total	3,344
Number of coroners' inquests	1,492
Number of autopsies	149
Number of non-residents dying within the city limits, white	558
Number of non-residents dying within the city limits, colored	92

HOWARD A. MOORE,

Statistician.

TABLE NO. 1.

NUMBER OF INFECTIOUS AND CONTAGIOUS DISEASES REPORTED DURING YEAR 1916.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Smallpox	....	....	....	....	....	....	....	....	....	....	....	....	.....
Diphtheria	127	79	58	47	33	29	39	42	50	74	65	88	731
Pseudo-Membraneous Croup	....	....	....	....	....	....	....	....	....	....	....	....	.....
Croup	....	....	....	....	....	....	....	....	....	....	....	....	.....
Scarlet Fever	190	111	168	126	115	67	45	19	28	19	31	47	966
Typhoid Fever	17	18	24	28	30	39	82	175	182	95	52	34	776
Measles	739	973	1294	1081	800	331	125	26	17	4	7	10	5,407
Mumps	32	47	93	86	97	39	29	14	5	5	3	11	461
Whooping Cough	76	145	196	153	161	203	185	154	57	38	15	13	1,396
Varicella	186	152	126	93	87	106	32	18	10	20	32	73	935
Tuberculosis Pulmonalis	120	110	123	114	201	177	199	156	181	139	134	176	1,830
Cholera	....	....	....	....	....	....	....	....	....	....	....	....	.....
Yellow Fever	....	....	....	....	....	....	....	....	....	....	....	....	.....
Cerebrospinal Meningitis (epidemic)	1	....	....	3	1	....	3	4	....	2	....	2	16
Simple Meningitis	....	2	....	1	....	....	....	....	....	....	....	....	3
Gonorrhœal Ophthalmia	1	....	....	1	....	....	....	1	2	1	2	3	11
Erysipelas	4	2	2	6	11	6	....	....	3	1	1	2	38
Paratyphoid	1	1	2	2	4	1	1	4	5	4	4	....	29
Anterior Poliomyelitis	....	....	2	....	....	....	3	37	71	74	17	2	206
Malaria	....	....	....	....	....	1	....	....	....	....	....	....	1
Leprosy	....	....	....	....	....	1	....	....	....	....	....	....	1
Total	1494	1640	2088	1741	1540	1000	743	650	611	476	363	461	12,807

TABLE NO. 2.

Deaths from All Causes, by Sex and Color for Each Calendar Month.
1916.

Month.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
January.	409	406	115	122	1,052
February.	376	342	117	112	947
March.	413	389	131	135	1,068
April.	418	320	140	124	1,002
May.	342	318	114	108	882
June.	282	252	123	107	764
July.	345	250	129	108	832
August.	359	312	109	121	901
September.	306	243	105	96	750
October.	311	292	115	93	811
November.	318	286	85	96	785
December.	377	317	117	114	925
Total.	4,256	3,727	1,400	1,336	10,719

TABLE NO. 3—NUMBER OF DEATHS FROM ALL CAUSES

Ages.	Jan.		Feb.		March.		April.		May.	
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.
Under 3 months.....	63	19	48	30	66	32	88	21	55	30
Between 3 & 12 months...	30	18	42	8	41	19	31	21	33	10
Between 1 & 2 years....	21	8	20	8	33	14	33	15	20	12
Between 2 & 3 years....	17	5	4	2	8	8	10	10	6	3
Between 3 & 4 years....	5	....	8	4	5	4	9	1	7	3
Between 4 & 5 years....	4	4	5	2	4	1	2	5	4	....
Total under 5 years.	140	54	127	54	157	78	173	73	125	58
Between 5 & 9 years..	14	3	13	4	14	10	8	3	13	7
Between 10 & 14 years..	5	3	2	4	6	3	8	7	9	7
Between 15 & 19 years..	19	8	10	6	17	10	11	5	13	7
Between 20 & 24 years..	13	7	28	15	22	20	15	16	13	10
Between 25 & 29 years..	22	12	20	15	21	15	19	11	22	13
Between 30 & 34 years..	30	17	38	9	29	12	22	21	31	17
Between 35 & 39 years..	30	19	34	10	34	22	29	22	33	15
Between 40 & 44 years..	43	16	36	25	38	19	34	17	30	15
Between 45 & 49 years..	58	17	36	17	36	15	50	18	36	18
Between 50 & 54 years..	41	19	54	19	56	20	42	15	49	19
Between 55 & 59 years..	56	19	36	12	62	8	57	13	59	13
Between 60 & 64 years..	61	13	71	16	60	7	60	12	44	9
Between 65 & 69 years..	79	10	59	9	67	9	61	14	50	7
Between 70 & 74 years..	75	8	52	5	75	8	55	9	48	2
Between 75 & 79 years..	59	3	59	5	51	5	47	3	39	1
Between 80 & 84 years..	39	4	28	3	36	4	22	3	31	2
Between 85 & 89 years..	22	1	17	1	17	....	19	2	11	....
Between 90 & 94 years..	7	3	7	....	2	1	6	....	3	1
Between 95 & 99 years..	1	1	1	....	2	....	....	....	1	....
Between 100 & 104 years.	1	....	....	....	....	....	....	....	....	1
Between 105 & 109 years.	....	....	....	....	....	....	....	....	....	....
Over 110 years.....	....	....	....	....	....	....	....	....	....	....
Unknown age.	....	....	....	....	....	....	....	....	....	....
Total.....	815	237	728	229	802	266	738	264	660	222

ACCORDING TO AGES DURING THE YEAR 1916.

June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		
W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	Total.
53	21	60	32	78	24	64	26	65	28	52	18	58	18	1,049
19	14	76	33	115	26	65	22	33	14	27	5	17	15	734
8	4	23	10	25	19	31	12	17	9	6	3	12	4	367
7	8	6	5	6	7	11	9	7	3	5	4	4	5	160
1	1	1	4	7	2	1	2	9	....	2	1	4	4	85
1	1	4	....	2	....	3	2	10	3	....	....	2	1	60
89	49	170	84	233	78	175	73	141	57	92	31	97	47	2,455
15	6	13	3	13	3	13	2	10	2	9	2	13	2	195
14	7	6	6	7	2	2	2	4	4	4	1	3	3	119
9	6	12	13	11	8	15	1	13	7	13	6	11	9	240
22	21	11	14	16	19	26	15	12	9	18	11	18	10	381
29	18	22	10	29	15	13	13	24	14	22	11	25	19	434
22	11	21	12	19	12	21	8	23	13	28	7	26	13	462
12	15	24	15	28	12	18	11	30	14	32	15	21	15	510
23	24	23	18	32	14	27	15	39	19	30	21	27	25	610
41	14	27	16	32	16	42	18	37	16	40	8	44	14	666
38	23	34	14	42	13	24	12	36	18	34	22	51	20	715
37	10	44	7	35	12	25	13	45	13	42	8	68	17	711
48	9	41	13	38	13	38	9	38	3	52	13	59	11	728
47	7	38	7	38	3	22	3	44	6	59	4	54	12	709
30	3	40	1	40	5	30	4	35	5	44	13	69	8	664
25	2	33	3	26	3	29	1	41	4	48	3	57	1	548
22	3	17	1	18	1	16	1	14	2	18	2	29	1	317
9	1	12	....	12	1	8	....	10	1	16	1	11	3	175
2	1	5	....	1	....	4	....	6	1	3	2	10	....	65
....	....	2	....	1	....	1	....	1	....	....	....	1	1	14
....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
534	230	595	237	671	230	549	201	603	208	604	181	694	231	10,719

TABLE NO. 4.

NATIVITY OF THE DECEDENTS FOR THE YEAR 1916.

Nativity.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
United States—White males	314	280	313	318	253	220	258	290	241	245	254	297	3,283
United States—White females	313	264	301	248	253	202	199	258	198	224	231	225	2,916
United States—Colored males	111	111	126	127	109	117	122	103	98	109	82	111	1,326
United States—Colored females	121	111	134	123	106	104	107	119	95	91	94	111	1,316
Foreign—White males	87	90	97	94	81	57	84	61	61	59	60	72	903
Foreign—White females	93	76	84	71	62	47	51	49	44	65	53	89	784
Foreign—Colored males	....	....	1	3	1	1	2	4	1	1	....	....	14
Foreign—Colored females	....	....	1	....	1	2	....	....	....	....	....	....	4
Unknown—White males	8	6	3	6	8	5	3	8	4	7	4	8	70
Unknown—White females	....	2	4	1	3	3	....	5	1	3	2	3	27
Unknown—Colored males	4	6	4	10	4	5	5	2	6	5	3	6	60
Unknown—Colored females	1	1	....	1	1	1	1	2	1	2	2	3	16
Total	1052	947	1068	1002	882	764	832	901	750	811	785	925	10,719

MARRIAGES FOR THE YEAR 1916.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Marriages	462	449	462	541	486	902	473	546	660	651	722	628	6,982

TABLE NO. 5.

NUMBER OF BIRTHS REPORTED DURING THE YEAR 1916.

SEX AND COLOR.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
White males	494	560	489	504	532	544	570	581	519	576	607	559	**6,535**
White females	481	568	495	457	494	478	579	530	534	463	533	515	**6,127**
Colored males	90	176	97	98	104	79	99	111	93	95	75	108	**1,225**
Colored females	99	131	102	90	95	101	98	103	91	76	97	115	1,198
Total	1164	1435	1183	1149	1225	1202	1346	1325	1237	1210	1312	1297	15,085
ILLEGITIMATES.													
White males	12	17	10	17	17	19	9	14	15	6	11	14	**161**
White females	12	15	15	16	22	14	12	13	10	8	18	9	**164**
Colored males	21	30	14	31	18	25	23	24	16	22	17	30	**271**
Colored females	20	25	23	20	36	30	23	21	17	21	20	23	**279**
Total	65	87	62	84	93	88	67	72	58	57	66	76	**875**
STILL BIRTHS.													
White males	35	46	47	40	42	44	40	54	48	44	32	54	**526**
White females	25	32	27	19	30	37	26	26	18	24	30	21	315
Colored males	16	21	20	23	19	22	22	17	19	23	23	18	**243**
Colored females	17	13	10	9	7	14	19	11	15	11	9	16	**151**
Total	93	112	104	91	98	117	107	108	100	102	94	109	1,235

TABLE NO. 6.

NUMBER OF DEATHS FROM ALL CAUSES ACCORDING TO WARDS DURING THE YEAR 1916.

WARDS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
First	46	56	38	27	33	23	35	51	42	37	24	37	449
Second	26	34	33	48	32	27	45	37	27	22	25	36	392
Third	34	39	38	28	17	15	31	31	26	17	16	31	323
Fourth	64	53	75	64	63	58	58	45	41	51	53	53	678
Fifth	32	33	40	37	33	26	21	19	20	24	18	31	334
Sixth	47	38	37	39	33	35	25	48	39	43	25	38	447
Seventh	64	59	82	60	58	51	58	54	53	62	57	63	721
Eighth	48	19	35	40	34	36	36	34	31	30	41	43	427
Ninth	51	36	51	34	36	21	33	30	34	39	44	45	454
Tenth	49	31	42	39	28	19	31	30	25	33	24	37	388
Eleventh	39	45	42	46	37	25	26	23	30	41	28	40	422
Twelfth	52	44	54	41	47	26	34	33	36	35	45	41	488
Thirteenth	25	25	36	43	41	22	18	34	27	28	29	36	364
Fourteenth	71	47	54	56	48	29	35	57	34	39	21	39	530
Fifteenth	64	55	54	62	43	44	53	43	37	43	42	45	585
Sixteenth	47	48	37	45	38	43	29	55	38	35	36	37	488
Seventeenth	44	31	57	49	38	24	42	47	41	39	44	41	497
Eighteenth	41	43	40	44	34	43	36	41	24	30	28	38	442
Nineteenth	43	44	31	34	34	35	24	18	30	37	35	25	390
Twentieth	37	40	49	38	28	35	42	42	23	28	36	37	435
Twenty-first	45	32	39	44	40	37	44	36	25	26	29	27	424
Twenty-second	24	37	27	32	18	27	29	28	16	24	23	34	319
Twenty-third	25	26	34	27	31	22	19	27	18	21	17	25	292
Twenty-fourth	25	25	37	21	33	38	24	29	21	21	36	34	344
Bay View Asylum—Residence unknown	9	7	6	4	5	3	4	9	11	6	9	12	85
Sydenham Hospital—Residence unknown	....	....	....	....	....	....	....	....	1	....	....	....	1
Total	1052	947	1068	1002	882	764	832	901	750	811	785	925	10,719

TABLE NO. 7.

NUMBER OF DEATHS IN HOSPITALS, PUBLIC INSTITUTIONS, INQUESTS AND AUTOPSIES, ETC., DURING THE YEAR 1916.

Hospitals, Institutions, etc.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Hospitals—													
Resident, white	148	121	138	125	114	102	107	112	103	129	87	104	1,390
Resident, colored	29	54	39	50	32	39	42	34	41	28	24	38	450
Non-Resident, white	55	37	38	45	57	47	46	42	34	43	54	33	531
Non-Resident, colored	7	4	7	8	6	9	10	4	3	14	7	9	88
Other Institutions, Asylums, etc.—													
Resident, white	20	9	17	11	16	8	8	17	9	15	6	16	152
Resident, colored	6	3	4	4	4	1	4	6	3	4	1	4	44
Non-Resident, white	....	3	3	2	5	3	1	2	1	....	2	4	26
Non-Resident, colored	....	....	....	....	....	....	....	....	....	....	....	....	.....
Jail—													
White residents	1	....	....	1	1	....	....	2	....	....	1	1	7
White non-residents	....	....	....	....	....	....	....	....	....	....	....	....	.....
Colored residents	....	....	....	....	....	....	1	....	....	....	1	....	2
Colored non-residents	....	....	....	....	....	....	....	....	....	....	....	....	.....
Penitentiary—													
White residents	....	....	....	....	....	....	....	....	....	....	....	1	1
White non-residents	1	....	....	....	....	....	....	....	....	....	....	....	1
Colored residents	....	....	2	2	1	3	1	1	1	....	1	1	13
Colored non-residents	....	....	1	2	....	....	....	....	....	....	1	....	4
Bay View Asylum—													
White	30	30	35	41	30	28	17	33	31	24	23	26	348
Colored	17	21	27	13	25	25	18	25	21	17	18	25	252
Sydenham Hospital	4	5	5	....	5	2	3	....	6	2	....	3	35
Total	318	287	316	304	296	267	258	278	253	276	226	265	3,344
Coroners' inquests	121	105	132	124	128	130	123	108	103	137	137	144	1,492
Autopsies	4	3	9	10	8	8	1	15	34	35	13	9	149

TABLE NO. 8.

NUMBER OF DEATHS ACCORDING TO OCCUPATIONS, DURING THE YEAR 1916

Occupation.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Artists and designers	....	....	....	....	....	1	....	....	....	....	1	....	2
Bakers	5	1	4	3	3	2	3	3	2	3	3	....	32
Barbers and wigmakers	5	2	....	2	2	5	1	2	4	4	2	5	34
Blacksmiths and wheelwrights	4	3	3	1	2	2	2	....	3	2	1	3	26
Bookkeepers and clerks	18	14	19	15	12	21	10	20	13	12	20	12	186
Brassfinishers	....	....	1	3	....	....	....	....	....	....	....	1	5
Bricklayers and masons	3	....	2	3	3	2	1	1	2	1	2	2	22
Butchers	5	....	6	6	3	1	4	4	1	4	3	7	44
Cabinetmakers	5	4	2	1	2	1	....	....	2	2	2	2	23
Carpenters and builders	20	8	19	11	11	7	14	9	10	11	11	10	141
Cigarmakers and dealers	4	2	....	2	3	4	2	1	1	1	2	3	25
Clergymen	3	1	2	1	3	1	1	2	1	2	3	2	22
Confectioners and fruiterers	....	....	....	....	1	....	1	1	....	....	....	....	3
Cooks	16	15	17	12	13	5	9	7	6	8	8	11	127
Diemakers	....	....	....	....	....	....	....	....	....	....	....	....	.....
Drivers and hostlers	14	12	9	16	13	14	11	7	9	17	9	16	147
Druggists and chemists	1	....	....	2	1	1	2	....	1	....	1	3	12
Dyers and scourers	....	....	....	....	....	....	....	....	....	....	....	1	1
Electrical workers	1	2	1	2	2	1	1	2	....	2	5	1	20
Engineers and machinists	11	10	13	7	6	....	10	6	5	11	9	11	99
Firemen	3	3	1	2	1	....	....	....	....	1	....	....	11
Gasfitters	....	....	....	....	....	....	....	....	....	....	....	....	.....
Grocers	3	1	2	2	3	2	2	2	1	7	3	1	29
Hodcarriers	2	....	1	....	....	....	1	1	1	....	1	1	8
Horseshoers	1	....	....	....	....	....	1	....	....	1	1	1	5
Housewives	233	201	220	178	175	160	119	147	123	170	166	211	2,103
Jewelers and watchmakers	....	1	....	1	2	....	1	....	....	....	1	4	10

Laborers	94	78	80	106	70	71	58	66	72	65	74	91	925
Laundrymen and laundresses	10	9	10	14	5	11	9	9	12	11	17	7	123
Lawyers	2	3	2	2	1	3	2	....	....	6	3	3	27
Liquor dealers and barkeepers	7	5	3	7	2	4	5	4	4	3	4	2	50
Merchants	19	17	28	27	14	18	14	17	9	9	19	17	208
Mill Operatives	1	1	4	1	1	2	1	....	2	1	....	2	16
Moulders	1	2	6	3	5	2	1	1	4	....	3	2	30
Nurses	....	....	1	....	1	2	1	2	1	2	....	1	11
Oyster shuckers	2	1	....	....	3	1	....	1	....	1	....	....	9
Painters and varnishers	9	2	9	7	5	8	4	8	1	4	7	8	72
Paperhangers and decorators	1	....	1	1	1	....	....	....	1	4	1	2	12
Physicians and dentists	3	6	3	2	1	3	1	1	6	1	3	5	35
Planing mill workers	....	....	....	....	....	....	....	....	....	....	....	....	.....
Plasterers and lathers	....	....	1	3	1	1	1	1	....	....	3	5	16
Plumbers and steamfitters	5	3	3	3	4	3	1	5	2	5	....	5	39
Policemen and watchmen	8	6	12	6	6	5	8	5	4	5	7	4	76
Printers and bookbinders	2	2	2	2	3	3	2	1	2	1	....	....	20
Religious	2	2	1	1	1	1	1	....	....	....	....	....	9
Salesmen and salesladies	11	12	12	12	9	7	7	7	5	10	11	13	116
School teachers	4	6	6	....	3	2	1	4	1	....	1	2	30
Seamstresses	11	5	6	3	3	6	2	9	3	1	3	3	55
Servants	20	11	17	16	19	12	20	17	17	15	21	29	214
Shoemakers and harnessmakers	6	9	5	7	6	2	5	5	1	....	4	5	55
Solicitors and collectors	5	1	4	3	1	....	4	1	....	1	1	....	21
Steam railway employees	18	14	6	4	5	11	3	2	5	3	7	2	70
Stevedores	4	6	10	4	7	6	6	4	7	7	4	4	69
Stonecutters and marbleworkers	3	1	1	2	1	1	3	2	1	1	1	1	18
Street pavers	....	....	....	....	....	....	....	....	....	....	....	....	.....
Street railway employees	1	3	2	5	....	1	1	1	1	3	3	4	25
Structural iron workers	....	....	....	....	....	....	1	....	....	....	....	1	2
Tailors and clothiers	9	5	14	10	10	6	3	6	4	9	7	9	91
Tilesetters and cementers	2	....	....	....	....	....	....	....	....	....	....	....	2
Tin and sheet-iron workers	1	3	1	2	3	....	2	4	2	3	1	1	23
Upholsterers	1	....	1	3	....	....	....	....	1	....	1	....	7
All others	90	122	106	104	95	84	94	74	65	75	75	106	1,090
Not specified	353	332	389	372	335	258	375	429	332	306	250	283	4,014
Total	1052	947	1068	1002	882	764	832	901	750	811	785	853	10,719

TABLE NO. 9.

DEATHS FROM ALL CAUSES, BY SOCIAL CONDITION, DURING THE YEAR 1916.

Social Condition.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Single.	1826	1352	769	610	4557
Married.	1750	1171	454	382	3657
Widowed.	612	1183	135	331	2261
Divorced.	15	11	2	1	29
Not given.	53	10	40	12	115
Total.	4256	3727	1400	1336	10,719

TABLE NO. 10—NUMBER OF DEATHS FROM ALL CAUSES DURING THE YEAR 1916.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1. *General Diseases.*													
1. Typhoid fever	8	4	2	4	3	7	14	11	20	21	10	3	107
2. Typhus fever	....	....	....	....	....	....	....	....	....	....	....	....	.....
3. Relapsing fever	....	....	....	....	....	....	....	....	....	....	....	....	.....
4. Malaria	1	....	....	....	....	....	....	....	....	1	....	....	2
5. Smallpox	....	....	....	....	....	....	....	....	....	....	....	....	.....
6. Measles	5	7	8	7	5	1	1	....	....	....	....	....	34
7. Scarlet fever	4	6	7	2	8	....	2	....	....	1	....	....	30
8. Whooping cough	4	5	5	11	8	4	10	5	2	7	1	1	63
9. Diphtheria and croup	9	8	9	2	5	2	3	4	5	9	1	5	62
10. Influenza	49	34	20	5	2	1	5	1	....	3	2	7	129
11. Miliary fever	....	....	....	....	....	....	....	....	....	....	....	....	.....
12. Asiatic cholera	....	....	....	....	....	....	....	....	....	....	....	....	.....
13. Cholera nostras	....	....	....	....	....	....	....	....	....	....	....	....	.....
14. Dysentery	....	1	....	....	....	....	1	3	1	1	....	....	7
15. Plague	....	....	....	....	....	....	....	....	....	....	....	....	.....
16. Yellow fever	....	....	....	....	....	....	....	....	....	....	....	....	.....
17. Leprosy	....	....	....	....	....	....	....	....	....	....	....	....	.....
18. Erysipelas	3	4	3	5	4	3	....	....	....	2	1	2	27
19. Other Epidemic Diseases—													
Vancella	....	....	2	....	....	....	....	....	....	....	....	....	2
Mumps	....	....	....	....	....	....	1	....	....	....	....	....	1

TABLE NO. 10—NUMBER OF DEATHS FROM ALL CAUSES DURING THE YEAR 1916—*Continued.*

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
20. Purulent infection and septichæmia	3	1	2	2	....	2	3	4	....	5	....	....	22
21. Glanders	....	....	....	....	....	....	....	....	....	....	....	....	.....
22. Anthrax	....	....	....	....	....	....	....	....	....	....	....	....	.....
23. Rabies	....	....	....	....	....	....	....	....	....	....	....	....	.....
24. Tetanus	2	....	....	3	1	....	1	....	1	....	....	....	8
25. Mycoses	....	....	....	1	....	....	....	....	....	....	....	....	1
26. Pellagra	....	1	....	....	....	1	....	....	....	....	....	....	2
27. Beriberi	....	....	....	....	....	....	....	....	....	....	....	....	.....
28. Tuberculosis of the lungs	79	107	109	101	98	103	81	91	78	73	84	117	1,121
29. Acute miliary tuberculosis	6	4	6	9	7	2	6	9	3	9	5	5	71
30. Tuberculous meningitis	3	7	7	2	8	9	4	4	5	3	1	3	56
31. Abdominal tuberculosis	2	1	4	5	5	3	2	4	2	3	2	5	38
32. Potts' disease	....	1	1	1	1	....	1	....	1	1	1	....	8
33. White swellings	....	....	....	....	....	1	....	....	....	....	2	....	3
34. Tuberculosis of other organs	....	1	1	3	3	2	....	3	....	....	2	....	15
35. Disseminated tuberculosis	....	....	....	....	....	1	....	3	....	2	2	1	9
36. Rickets	1	....	1	....	1	....	....	2	....	....	....	....	5
37. Syphilis	9	17	18	13	18	12	12	15	14	6	6	10	150
38. Gonococcus infection	....	1	....	....	....	....	1	....	....	....	1	4	7
Cancers and Other Malignant Tumors.													
39. Of the buccal cavity	5	2	1	2	1	6	3	2	2	6	....	2	32
40. Of the stomach, liver	19	8	20	33	18	10	23	16	22	18	20	20	227

41. Of the peritonæum, intestines, rectum	3	6	5	6	4	7	9	8	3	5	4	6	66
42. Of the female genital organs	14	11	11	11	14	6	3	9	8	7	5	7	106
43. Of the breast	5	6	8	4	7	7	8	9	4	3	8	4	73
44. Of the skin	....	....	....	2	1	2	3	1	1	1	1	2	14
45. Of other organs and of organs not specified	8	5	11	10	9	8	14	11	7	13	11	11	118
46. Other tumors (tumors of the female genital organs excepted)	....	....	....	1	....	....	....	1	1	1	....	....	4
47. Acute articular rheumatism	2	1	....	3	3	2	2	4	....	1	4	2	24
48. Chronic rheumatism and gout	....	1	....	....	1	2	2	1	....	2	1	....	10
49. Scurvy	1	....	....	....	....	....	....	....	....	....	....	....	1
50. Diabetes	14	13	13	11	10	11	6	7	5	9	12	11	122
51. Exophthalmic goitre	1	2	2	....	....	1	1	....	....	....	....	....	7
52. Addison's disease	....	....	....	....	....	....	....	....	....	....	....	....	.....
53. Leuchæmia	1	2	1	1	1	3	5	1	1	2	....	2	20
54. Anæmia, chlorosis	1	3	3	2	4	2	1	3	....	4	1	1	25
55. Other general diseases	1	....	....	....	....	....	....	....	2	....	....	....	3
56. Alcoholism, acute or chronic	3	1	2	4	5	5	3	3	....	1	....	5	32
57. Chronic lead poisoning	....	1	1	....	1	....	....	....	....	....	....	....	3
58. Other chronic occupation poisonings	....	....	....	....	....	....	....	....	....	....	....	1	1
59. Other chronic poisonings	....	1	1	....	....	....	....	....	....	....	....	....	2
2 *Diseases of the Nervous System and of the Organs of Special Sense.*													
60. Encephalitis	2	2	1	....	....	1	....	....	....	2	....	....	8
61a. Cerebrospinal meningitis (epidemic)	2	2	3	....	1	2	2	2	1	....	....	3	18
61. Simple meningitis	4	5	1	5	5	....	2	1	3	1	1	3	31
62. Locomotor ataxia	1	1	2	2	1	....	1	....	....	....	....	1	9
63a. Anterior poliomyelitis	....	....	2	....	....	....	1	16	24	21	4	2	70

TABLE NO. 10—NUMBER OF DEATHS FROM ALL CAUSES DURING THE YEAR 1916—*Continued.*

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
63. Other diseases of the spinal cord.	1	1	1	1	2	....	3	2	1	2	....	1	15
64. Cerebral hæmorrhage, apoplexy..	69	69	52	57	70	55	42	43	50	47	89	59	702
65. Softening of the brain.....	....	1	....	....	....	....	....	2	1	....	....	1	5
66. Paralysis without specified cause.	4	2	5	6	6	3	5	3	2	2	2	3	43
67. General paralysis of the insane..	5	....	1	2	3	2	4	3	2	2	3	2	29
68. Other forms of mental alienation.	....	....	....	....	1	....	....	1	....	....	....	....	2
69. Epilepsy.....	1	1	3	1	....	....	1	....	1	4	1	....	13
70. Convulsions (non-puerperal).....	....	....	....	....	....	....	....	....	....	....	....	....	.....
71. Convulsions of infants.....	1	1	3	3	2	5	6	3	1	1	1	3	30
72. Chorea.....	....	....	....	....	....	....	1	....	....	....	....	....	1
73. Hysteria.....	....	....	1	....	....	....	....	....	....	....	....	....	1
74. Other diseases of the nervous system.....	3	4	6	3	3	3	1	6	3	4	2	3	41
75. Diseases of the eyes and their annexa.....	....	....	....	....	....	....	....	....	....	....	....	....	.....
76. Diseases of the ears.....	....	1	4	1	1	3	2	2	....	2	....	....	16
3. *Diseases of the Circulatory System.*													
77. Pericarditis.....	1	1	....	....	1	1	....	1	....	....	....	1	6
78. Acute endocarditis.....	6	10	9	6	5	6	4	10	8	5	6	11	86
79. Organic diseases of the heart....	106	101	109	96	73	78	58	64	75	88	99	112	1,059
80. Angina pectoris.....	7	6	9	8	8	1	6	3	4	6	3	5	66

81. Diseases of the arteries, atheroma, aneuryism, etc.	23	15	20	21	12	16	14	10	5	13	11	20	180
82. Embolism and thrombosis	4	2	1	....	4	2	2	2	....	2	4	2	25
83. Diseases of veins (varices, hæmorrhoids, phlebitis, etc.)	1	1	....	....	2	....	1	....	....	....	....	1	6
84. Diseases of the lymphatic system lymphangitis, etc.)	1	....	....	1	2	2	2	1	....	....	....	....	9
85. Hæmorrhage; other diseases of the circulatory system	1	....	....	....	....	....	....	....	....	....	1	....	2
4. *Diseases of the Respiratory System.*													
86. Diseases of the nasal fossæ	....	....	....	....	....	....	....	....	....	....	....	....	.....
87. Diseases of the larynx	....	....	1	....	....	2	1	1	....	1	....	....	6
88. Diseases of the thyreoid body	1	1	....	....	1	....	1	....	....	....	....	....	4
89. Acute bronchitis	8	12	10	10	4	4	4	1	4	4	8	12	81
90. Chronic bronchitis	3	5	7	5	3	3	....	2	4	3	....	8	43
91. Broncho-pneumonia	80	66	104	92	54	27	22	29	34	26	32	45	611
92. Pneumonia	149	106	113	104	63	31	14	16	18	35	42	100	791
93. Pleurisy	2	1	1	4	1	1	....	....	....	1	....	1	12
94. Pulmonary congestion pulmonary apoplexy	2	2	1	....	....	1	....	....	1	....	2	....	9
95. Gangrene of the lung	....	....	1	....	....	....	....	....	....	....	....	....	1
96. Asthma	2	....	1	1	2	....	1	....	....	1	1	....	9
97. Pulmonary emphysema	1	....	....	1	....	....	....	....	....	....	....	....	2
98. Other diseases of the respiratory system, tuberculosis excepted.	1	....	....	....	....	....	....	....	....	1	....	....	2
5. *Diseases of the Digestive System.*													
99. Diseases of the mouth and annexa	1	....	1	....	....	....	....	1	....	....	....	1	4
100. Diseases of the pharynx	....	....	2	2	1	1	1	....	2	....	3	3	15

TABLE NO. 10—NUMBER OF DEATHS FROM ALL CAUSES DURING THE YEAR 1916—*Continued.*

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
101. Diseases of the œsophagus	....	....	1	....	....	....	....	....	....	....	....	1	2
102. Ulcer of the stomach	2	3	1	....	2	....	....	2	2	1	1	3	17
103. Other diseases of the stomach, cancer excepted	8	2	2	4	4	7	2	2	5	5	4	2	47
104. Diarrhœa and enteritis (under 2 years)	12	16	16	20	15	19	125	173	93	51	25	16	581
105. Diarrhœa and enteritis (2 years and over)	6	6	9	6	6	4	12	13	7	7	....	7	83
106. Ankylostomiasis	....	....	....	....	....	....	....	....	....	....	....	....	.....
107. Intestinal parasites	....	....	....	....	....	....	....	....	....	....	....	....	.....
108. Appendicitis and typhlitis	8	5	6	8	4	8	5	12	6	3	5	6	76
109. Hernias, intestinal obstructions	9	9	5	10	12	9	8	9	3	7	7	5	93
110. Other diseases of the intestines	....	....	....	1	....	....	1	....	5	....	2	2	11
111. Acute yellow atrophy of the liver	1	....	1	....	1	....	....	....	1	....	....	....	4
112. Hydatid tumor of the liver	....	....	....	....	....	....	....	....	....	....	....	....	.....
113. Cirrhosis of the liver	9	3	8	5	9	8	9	7	10	4	4	7	83
114. Biliary calculi	1	3	....	....	4	1	2	3	....	1	4	1	20
115. Other diseases of the liver	3	4	6	6	2	4	3	3	....	2	2	2	37
116. Diseases of the spleen	....	....	....	....	....	....	....	....	....	....	....	....	.....
117. Simple peritonitis (non-puerperal)	....	1	1	2	1	....	....	....	....	....	....	1	6
118. Other diseases of the digestive-system, cancer and tuberculosis excepted	....	....	....	....	....	....	....	....	....	....	....	....	.....
	1	....	....	....	....	1	....	1	....	3	1	1	8

6. *Non-Venereal Diseases of the Genito-Urinary System and Annexa.*													
119. Acute nephritis	11	16	14	8	5	8	9	9	9	14	6	10	119
120. Bright's disease	102	67	79	72	79	73	69	67	49	78	91	88	914
121. Chyluria	....	....	....	....	....	....	....	....	....	....	....	....	.....
122. Other diseases of the kidneys and annexa	....	1	4	....	3	2	....	1	1	3	1	1	17
123. Calculi of the urinary passages	....	....	....	....	....	....	....	1	....	....	1	....	2
124. Diseases of the bladder	1	....	1	....	1	....	2	1	....	....	2	....	8
125. Other diseases of the urethra, urinary abscess, etc.	2	....	....	1	1	2	....	....	....	1	....	....	7
126. Diseases of the prostate	2	5	2	2	2	2	2	4	3	5	1	....	30
127. Non-venereal diseases of the male genital organs	....	....	....	....	....	....	....	....	....	....	....	....	.....
128. Uterine hæmorrhage (non-puerperal)	....	....	....	....	....	....	....	....	....	....	....	....	.....
129. Uterine tumor (non-cancerous)	1	2	4	1	2	4	2	3	2	3	1	....	25
130. Other diseases of the uterus	....	3	....	1	1	1	2	....	....	2	....	....	10
131. Cysts and other tumors of the ovary	....	....	2	2	2	....	1	....	1	1	....	....	9
132. Salpingitis and other diseases of the female genitals	1	2	3	2	2	1	2	....	1	1	....	1	16
133. Non-puerperal diseases of the breast, cancer excepted	....	....	....	....	....	....	....	....	....	....	....	....	.....
7. *The Puerperal State.*													
134. Accidents of pregnancy	1	1	2	1	5	1	....	....	1	2	3	1	17
135. Puerperal hæmorrhage	3	2	....	....	....	2	2	2	....	....	1	....	12
136. Other accidents of labor	....	....	2	....	....	2	....	....	2	1	....	1	8
137 Puerperal septichæmia	....	6	3	4	4	2	7	2	2	....	3	2	35

TABLE NO. 10—NUMBER OF DEATHS FROM ALL CAUSES DURING THE YEAR 1916—*Continued.*

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
138. Puerperal albuminuria and convulsions	....	2	1	3	....	3	1	6	2	3	3	4	28
139. Puerperal phlegmasia, alba dolens, embolus, sudden death	1	....	1	....	....	....	....	1	....	....	1	....	4
140. Following childbirth, not otherwise defined	....	....	....	....	....	....	....	....	....	....	....	....	.....
141. Puerperal diseases of the breast	....	....	....	....	....	....	....	....	....	....	....	....	.....
8. *Diseases of the Skin and of the Cellular Tissue.*													
142. Gangrene	2	....	1	2	3	2	1	1	....	....	1	....	13
143. Furuncle	1	....	....	1	2	....	2	2	1	1	....	....	10
144. Acute abscess	....	....	1	2	....	1	1	2	....	1	....	....	8
145. Other diseases of the skin and annexa	....	1	....	....	....	....	1	3	1	....	....	....	6
9. *Diseases of the Bones and of the Organs of Locomotion.*													
146. Diseases of the bones, tuberculosis excepted	4	2	2	3	....	3	3	4	1	1	....	1	24
147. Diseases of joints, tuberculosis and rheumatism excepted	....	1	....	2	1	....	....	....	....	....	....	1	5

148. Amputations	....	....	....	....	....	....	....	....	....	....	....	....	.....
149. Other diseases of the organs of locomotion	....	....	....	....	....	....	....	....	....	....	....	....	.....
10. *Malformations.*													
150. Congenital malformations (still-births not included)	6	9	5	10	9	16	10	8	7	14	9	9	112
11. *Diseases of Early Infancy.*													
151. Congenital debility, icterus and sclerema	44	24	44	40	40	35	45	37	48	32	31	38	458
152. Other diseases peculiar to early infancy	12	14	15	23	11	6	5	12	10	13	13	13	147
153. Lack of care	....	....	1	....	1	....	....	....	....	....	1	....	3
12. *Old Age.*													
154. Senility	6	6	17	12	2	4	7	11	5	6	5	4	85
13. *Affections Produced by External Causes.*													
155. Suicide by poison	2	2	5	2	3	1	1	....	4	1	2	2	25
156. Suicide by asphyxia	....	....	3	1	1	2	....	1	2	1	1	1	13
157. Suicide by hanging or strangulation	3	1	1	1	1	2	2	1	3	1	1	....	17
158. Suicide by drowning	....	....	....	....	....	....	2	....	1	....	....	....	3
159. Suicide by firearms	1	3	....	3	5	....	4	1	2	....	3	3	25
160. Suicide by cutting or piercing instruments	....	....	1	1	1	....	....	....	....	....	....	....	3

TABLE NO. 10—NUMBER OF DEATHS FROM ALL CAUSES DURING THE YEAR 1916—*Continued.*

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
161. Suicide by jumping from a high place	1	....	1	1	1	....	....	....	....	....	....	....	4
162. Suicide by crushing	....	....	....	....	....	....	1	....	....	....	....	....	1
163. Suicide by other means	....	....	....	1	1	....	....	1	....	....	....	....	3
164. Poisoning by food	....	....	....	....	....	....	....	....	....	....	....	....	.....
165. Other acute poisonings	....	....	....	....	....	2	....	....	1	....	....	....	3
166. Conflagration	....	....	1	....	....	1	....	....	....	....	....	....	2
167. Burns (conflagration excepted)	4	5	7	4	3	5	1	2	6	10	8	6	61
168. Absorption of deleterious gases, conflagration excepted	....	1	2	2	2	1	4	1	2	2	3	1	21
169. Accidental drowning	....	1	2	3	11	10	13	4	3	3	6	3	59
170. Traumatism by firearms	....	2	....	....	....	1	1	....	2	....	....	1	7
171. Traumatism by cutting or piercing instruments	....	....	....	....	....	....	....	....	....	....	....	1	1
172. Traumatism by fall	13	9	8	10	6	8	6	10	7	8	8	18	111
173. Traumatism in mines and quarries	....	....	....	....	....	....	....	....	....	....	....	....	.....
174. Traumatism by machines	....	1	4	4	6	....	1	....	1	1	....	3	21
175. Traumatism by other crushing (vehicles, railroad, landslides, etc.)	5	7	6	5	8	10	10	5	1	13	7	7	84
176. Injuries by animals	....	2	....	....	2	....	....	1	....	....	1	....	6
177. Starvation	....	....	....	....	....	....	....	....	....	....	....	....	.....

178. Excessive cold	....	....	....	....	....	....	....	....	....	....	....	1	1
179. Effects of heat	....	....	....	....	....	....	5	6	1	....	....	....	12
180. Lightning	....	....	....	....	....	....	....	....	....	....	....	....	.....
181. Electricity (lighting excepted)	....	....	....	3	....	2	....	....	....	....	....	....	5
182. Homicide by firearms	1	2	....	3	1	3	1	1	2	4	4	4	26
183. Homicide by cutting or piercing instruments	....	....	2	1	1	1	....	1	....	....	2	1	9
184. Homicide by other means	....	....	4	3	4	3	....	1	....	2	....	1	18
185. Fractures (cause not specified)	....	....	....	....	....	....	1	....	....	....	1	....	2
186. Other external violence	2	2	....	1	1	4	5	2	1	3	4	3	28
14. *Ill-Defined Diseases.*													
187. Ill-defined organic disease	....	....	....	....	....	....	....	....	....	....	....	....	.....
188. Sudden death	....	....	....	....	....	....	....	....	....	....	....	....	.....
189. Cause of death not specified or ill-defined	1	2	2	1	1	1	....	1	1	2	2	1	15
Total	1052	947	1068	1002	882	764	832	901	750	811	785	925	10,719

TABLE NO. 11.

SHOWING COMPARISON OF DEATHS DUE TO ALL CAUSES AND THOSE TO COMMUNICABLE DISEASES, FROM 1875 TO 1916, INCLUSIVE.

Years.	Population.	Typhoid Fever.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Pseudo-Membraneous Croup.	Croup.	Dysentery.	Diarrhœa and Enteritis, under 5 Years.*	Children under 5 Years of Age.	Total Mortality from All Causes, exclusive of Still Births.	Death Rate.	Still Births.	Rate of Still Births to 1,000 Inhabitants.
1875.	267,354	187	15	519	78	101	136	38	643	3,429	7,258	22.33	560	1.70
1876.	267,354	176	16	562	39	157	92	51	702	3,640	7,498	22.38	588	1.75
1877.	311,275	211	151	447	303	424	133	49	614	4,029	7,910	22.60	538	1.53
1878.	318,182	176	11	141	63	303	149	41	343	2,882	6,733	18.44	655	1.79
1879.	325,139	167	42	367	80	298	186	60	475	3,385	7,618	19.30	620	1.57
1880.	332,313	196	12	400	148	293	173	57	503	3,602	8,043	20.41	636	1.61
1881.	339,649	197	74	215	93	639	242	56	558	2,919	8,816	22.37	651	1.65
1882.	347,142	165	71	179	43	707	222	62	582	3,755	8,923	21.81	677	1.71
1883.	354,832	126	130	334	59	591	201	52	608	4,062	9,380	22.93	701	1.71
1884.	362,668	151	16	68	63	252	148	43	723	3,643	8,293	20.77	746	1.82
1885.	370,696	155	16	68	63	252	148	60	682	3,228	8,153	19.55	650	1.59
1886.	378,903	150	201	32	91	190	128	84	704	3,565	8,339	19.98	718	1.72
1887.	387,300	156	85	36	98	149	153	137	786	3,477	8,372	19.16	669	1.60
1888.	395,899	161	176	44	112	118	98	167	805	2,881	8,936	17.87	694	1.63
1889.	404,498	191	11	71	54	155	53	156	.994	3,505	8,703	17.40	784	1.84
1890.	413,671	217	248	42	100	274	45	212	859	4,117	10,198	22.41	800	1.76
1891.	426,917	150	16	128	103	350	44	118	852	3,910	10,073	22.14	811	1.78
1892.	440,163	193	120	258	32	381	47	109	1,091	4,443	10,582	23.25	813	1.78
1893.	453,409	224	39	36	60	185	25	62	762	3,604	9,554	20.99	770	1.69
1894.	466,655	222	3	85	112	198	33	72	793	3,761	9,486	20.84	721	1.58
1895.	479,907	173	68	59	68	265	45	70	637	4,026	10,301	20.76	666	1.30

1896.	493,147	188	27	31	87	249	32	82	526	3,728	9,919	19.60	678	1.33
1897.	506,398	189	16	53	42	347	13	57	830	3,510	9,329	18.43	706	1.39
1898.	541,000	189	48	46	64	362	50	82	720	3,939	10,385	19.19	748	1.38
1899.	541,000	153	5	24	19	299	13	57	703	3,319	10,152	18.76	706	1.30
1900.	509,369	189	24	20	47	267	12	77	848	3,695	10,700	20.50	682	1.34
1901.	514,385	141	3	11	63	164	7	49	726	3,391	10,479	19.77	672	1.30
1902.	519,401	220	41	37	95	121	9	78	695	3,327	10,253	18.90	659	1.27
1903.	524,420	189	77	84	64	152	8	40	550	3,102	10,141	18.60	741	1.41
1904.	529,435	199	6	143	24	114	1	54	671	3,155	10,818	19.70	710	1.34
1905.	534,450	197	67	33	64	96	6	44	751	3,465	10,695	19.32	814	1.52
1906.	539,466	183	14	47	151	111	4	37	623	3,319	10,753	19.12	826	1.53
1907.	544,482	230	74	15	17	78	2	48	747	3,333	11,190	19.56	794	1.46
1908.	549,498	180	17	70	41	63	1	35	591	2,967	10,435	18.19	811	1.48
1909.	554,514	136	54	25	117	74	2	33	562	3,071	10,376	17.73	817	1.47
1910.	559,530	235	19	49	83	64	.....	31	598	2,891	10,753	18.33	822	1.47
1911.	564,545	154	77	44	48	68	.....	25	568	2,714	10,404	17.54	712	1.26
1912.	569,560	136	5	23	34	93	.....	17	501	2,723	10,441	18.33	689	1.28
1913.	574,575	140	118	46	41	89	.....	21	558	2,740	10,679	18.58	909	1.58
1914.	579,590	130	6	36	90	91	.....	10	564	2,632	10,551	18.20	1,026	1.77
1915.	584,605	128	17	33	21	79	.....	12	480	2,181	10,002	17.10	1,131	1.93
1916.	589,621	107	34	30	63	62	.....	7	581	2,455	10,719	18.18	1,235	2.09

*The figures on diarrhœal diseases in children under five years of age are not complete, for the reason that prior to the year 1882 only those dying of "cholera infantum" were so classified, and from and including the year 1906, to conform with the International System of Classification, only those under two (2) years of age are included.

NOTE—In the above table the item "population," which is estimated, has been changed from and including the year 1900, so as to conform with the figures used by the United States Census Bureau. Previous to the census of 1910 the population for the inter-censal years, from 1900 on, was estimated on the assumption that the same, or more, average increase each year was maintained as was the previous decade; but the census for 1910 showed differently, and, therefore, the estimates of population and the death rate for each year has been adjusted accordingly.

TABLE No. 12

DEATHS FROM TYPHOID FEVER, BY SEX AND COLOR, FOR EACH CALENDAR MONTH—1916.

Month.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
January.	2	3	0	3	8
February.	2	1	1	0	4
March.	2	0	0	0	2
April.	0	3	1	0	4
May.	1	2	0	0	3
June.	5	2	0	0	7
July.	4	5	4	1	14
August.	3	7	1	0	11
September. . . .	12	5	1	2	20
October.	12	7	2	0	21
November.	6	3	1	0	10
December.	2	1	0	0	3
Total.	51	39	11	6	107

Non-resident—White, 12; Colored, 7; Total, 19.

TABLE NO. 13.

DEATHS FROM TYPHOID FEVER, BY AGE, FOR EACH CALENDAR MONTH—1916.

Age.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Under 1 month	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 1 and 3 months	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 3 and 12 months	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 1 and 2 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 2 and 3 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 3 and 4 years	....	....	....	....	....	....	1	....	....	....	1	....	2
Between 4 and 5 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Total under 5 years	....	....	....	....	....	....	1	....	....	....	1	....	2
Between 5 and 9 years	1	1	....	1	1	....	2	....	1	3	....	....	10
Between 10 and 14 years	....	....	....	....	....	....	....	....	1	1	....	....	2
Between 15 and 19 years	2	1	....	....	....	....	1	2	3	1	....	....	10
Between 20 and 24 years	1	1	....	3	1	3	1	2	7	4	....	1	24
Between 25 and 29 years	....	....	1	....	....	1	2	2	1	2	1	1	11
Between 30 and 34 years	1	....	....	....	....	1	1	2	2	5	1	....	13
Between 35 and 39 years	....	1	....	....	....	....	3	1	3	....	3	....	11
Between 40 and 44 years	....	....	1	....	....	1	2	....	2	1	....	....	7
Between 45 and 49 years	....	....	....	....	1	....	1	1	....	2	2	....	7
Between 50 and 54 years	2	....	....	....	....	....	....	1	....	1	....	....	4
Between 55 and 59 years	....	....	....	....	....	....	....	....	....	....	1	....	1
Between 60 and 64 years	....	....	....	....	....	1	....	....	....	....	1	1	3
Between 65 and 69 years	....	....	....	....	....	....	....	....	....	1	....	....	1
Between 70 and 74 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 75 and 79 years	1	....	....	....	....	....	....	....	....	....	....	....	1
Between 80 and 89 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 90 and 99 years	....	....	....	....	....	....	....	....	....	....	....	....	....
100 years and over	....	....	....	....	....	....	....	....	....	....	....	....	....
Unknown age	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	8	4	2	4	3	7	14	11	20	21	10	3	107

TABLE NO. 14.

DEATHS FROM MEASLES, BY SEX AND COLOR, FOR EACH CALENDAR MONTH—1916.

Month.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
January	4	1	..	..	5
February	5	1	1	..	7
March	4	4	..	..	8
April	2	4	1	..	7
May	2	2	..	1	5
June	..	..	1	..	1
July	..	..	..	1	1
August	..	..	..	..	..
September	..	..	..	..	..
October	..	..	..	..	..
November	..	..	..	..	..
December	..	..	..	..	..
Total	17	12	3	2	34

Non-residents—White, 1; Colored, 0; Total, 1.

TABLE NO. 15.

DEATHS FROM SCARLET FEVER, BY SEX AND COLOR, FOR EACH CALENDAR MONTH—1916.

Month.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
January	..	4	..	..	4
February	4	2	..	..	6
March	3	4	..	..	7
April	..	2	..	..	2
May	4	4	..	..	8
June	..	..	..	..	..
July	2	..	..	..	2
August	..	..	..	..	..
September	..	..	..	..	..
October	..	1	..	..	1
November	..	..	..	..	..
December	..	..	..	..	..
Total	13	17	..	..	30

Non-residents—White, 0; Colored, 0; Total, 0.

TABLE NO. 16.

DEATHS FROM WHOOPING COUGH, BY SEX AND COLOR, FOR EACH CALENDAR MONTH—1916.

Month.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
January.	2	. .	. .	2	4
February.	2	1	. .	2	5
March.	1	2	. .	2	5
April.	2	5	. .	4	11
May.	4	3	. .	1	8
June.	. .	. .	2	2	4
July.	2	6	2	. .	10
August.	2	1	1	1	5
September. . . .	. .	. .	1	1	2
October.	2	3	1	1	7
November. . . .	. .	1	. .	. .	1
December.	. .	. .	1	. .	1
Total.	17	22	8	16	63

Non-residents—White, 0; Colored, 0; Total, 0.

TABLE NO. 17.

DEATHS FROM DIPHTHERIA, BY SEX AND COLOR, FOR EACH CALENDAR MONTH—1916.

Month.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
January	5	4	..	..	9
February	3	3	..	2	8
March	3	5	..	1	9
April	1	1	..	..	2
May	5	..	..	..	5
June	1	1	..	..	2
July	1	2	..	..	3
August	1	2	1	..	4
September	1	4	..	..	5
October	1	7	1	..	9
November	1	..	..	..	1
December	3	1	..	1	5
Total	26	30	2	4	62

Non-residents—White, 2; Colored, 0; Total, 2.

TABLE NO. 18. NUMBER OF DEATHS FROM TUBERCULOSIS (ALL FORMS), ACCORDING TO AGES AND MONTHS, DURING THE YEAR 1916.

Ages.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Under 1 month	....	....	....	....	....	....	....	....	....	....	....	....	.....
Between 1 and 3 months	....	....	....	....	....	....	....	1	....	....	....	....	1
Between 3 and 12 months	2	3	2	1	1	1	3	3	....	1	....	2	19
Between 1 and 2 years	4	2	3	1	7	2	1	1	3	....	1	1	26
Between 2 and 3 years	1	1	....	5	....	2	3	1	4	1	1	1	20
Between 3 and 4 years	....	2	1	1	1	....	....	2	....	....	....	1	8
Between 4 and 5 years	1	1	....	3	....	1	....	....	1	1	....	....	8
Total under 5 years	8	9	6	11	9	6	7	8	8	3	2	5	82
Between 5 and 9 years	2	1	6	1	3	3	1	2	....	....	....	1	20
Between 10 and 14 years	....	3	3	1	6	4	3	....	....	2	1	2	25
Between 15 and 19 years	4	6	12	4	8	7	10	5	2	10	13	8	89
Between 20 and 24 years	6	15	20	14	9	22	10	14	20	11	12	12	165
Between 25 and 29 years	13	17	11	12	14	23	11	18	8	14	15	16	172
Between 30 and 34 years	12	13	8	15	13	11	10	13	12	7	12	16	142
Between 35 and 39 years	9	12	20	19	11	8	13	9	7	6	9	5	128
Between 40 and 44 years	9	8	10	9	14	9	7	14	7	11	10	14	122
Between 45 and 49 years	10	13	4	14	11	8	6	7	7	6	5	16	107
Between 50 and 54 years	4	11	10	5	9	6	3	5	4	9	7	9	82
Between 55 and 59 years	6	4	2	4	7	5	7	9	5	4	4	14	71
Between 60 and 64 years	2	5	7	6	4	2	1	5	4	4	5	3	48
Between 65 and 69 years	4	3	1	3	3	6	3	4	3	1	2	5	38
Between 70 and 74 years	1	1	5	3	1	1	1	....	2	....	2	4	21
Between 75 and 79 years	....	....	2	....	....	....	1	1	....	1	....	1	6
Between 80 and 84 years	....	....	....	....	....	....	....	....	....	2	....	....	2
Between 85 and 89 years	....	....	1	....	....	....	....	....	....	....	....	....	1
Between 90 and 94 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 95 and 99 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Over 100 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	90	121	128	121	122	121	94	114	89	91	99	131	1,321

TABLE NO. 19.

TUBERCULOSIS—ALL FORMS.

DEATHS AND DEATH RATES FOR WHITE, COLORED AND TOTAL POPULATION FOR THE YEAR 1903 to 1916, INCLUSIVE.

Year.	Total Deaths.	Death Rate per 1,000 Population.	White No. of Deaths.	White Death Rate per 1,000 Population.	Colored No. of Deaths.	Colored Death Rate per 1,000 Population.
1903	1366	2.60	932	2.10	434	5.33
1904	1514	2.86	1045	2.34	469	5.72
1905	1466	2.74	970	2.15	496	6.01
1906	1489	2.76	1011	2.22	478	5.76
1907	1481	2.72	981	2.13	500	5.98
1908	1413	2.57	951	2.04	462	5.49
1909	1438	2.59	896	1.91	542	6.40
1910	1396	2.49	902	1.90	494	5.80
1911	1388	2.46	875	1.83	513	5.98
1912	1393	2.45	900	1.86	493	5.71
1913	1341	2.33	868	1.78	473	5.45
1914	1344	2.32	854	1.74	490	5.61
1915	1290	2.21	798	1.61	492	5.60
1916	1321	2.24	807	1.61	514	5.81

Non-residents (1916): White, 22; Colored, 21. Total, 43.

TABLE NO. 20.

DEATHS FROM TUBERCULOSIS (ALL FORMS), BY SEX AND COLOR, FOR EACH CALENDAR MONTH—1916.

Month.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
January.	35	20	20	15	90
February.	60	27	18	16	121
March.	40	32	35	21	128
April.	51	26	29	15	121
May.	38	33	30	21	122
June.	37	36	25	23	121
July.	26	18	24	26	94
August.	42	30	20	22	114
September. . . .	38	19	16	16	89
October.	31	22	23	15	91
November.	37	29	15	18	99
December.	49	31	32	19	131
Total.	484	323	287	227	1321

TABLE NO. 21.

DEATHS FROM TUBERCULOSIS (ALL FORMS), BY SEX AND COLOR, AND SOCIAL CONDITION—1916.

Social Condition.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Single.	205	108	157	121	591
Married.	236	152	95	76	559
Widowed.	37	60	27	28	152
Divorced.	3	2	. .	1	6
Not Given.	3	1	8	1	13
Total.	484	323	287	227	1321

TABLE NO. 22.

DEATHS FROM TUBERCULOSIS (ALL FORMS)—AVERAGE AGE AT DEATH—1916.

	White.	Colored.	Total.
All Ages.	37.897	30.311	34.945
Under 5 years.	1.772	2.144	1.958
5 to 19 years, inclusive. . . .	16.100	14.667	15.266
20 years and over.	41.702	36.223	39.780

TABLE NO. 23.

DEATHS FROM TUBERCULOSIS (ALL FORMS), BY AVERAGE AGE AND SOCIAL CONDITION—1916.

Social Condition.	White.		Colored.		Total.	
	No. of Deaths.	Average Age.	No. of Deaths.	Average Age.	No. of Deaths.	Average Age.
Single.	313	28.547	278	22.320	591	25.618
Married.	388	40.781	171	36.903	559	39.594
Widows.	60	58.349	28	45.406	88	54.231
Widowers.	37	51.730	27	47.259	64	49.844
Divorced.	5	40.754	1	42.000	6	40.961
Unknown.	4	51.500	9	52.777	13	52.385
Total.	807	37.897	514	30.311	1321	34.945

TABLE NO. 24.

TUBERCULOSIS.

DEATHS EACH MONTH FROM PULMONARY TUBERCULOSIS ACCORDING TO COLOR, FROM 1900 TO 1916, INCLUSIVE.

Pul. T. B. 1916.		Months.	1900.		1901.		1902.		1903.		1904.		1905.		1906.		1907.		1908.		1909.		1910.		1911.		1912.		1913.		1914.		1915.		*All Forms.* 1916.	
W.	C.		W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.
50	29	January	56	20	91	27	72	29	69	33	83	37	70	41	63	27	105	47	101	39	78	45	72	39	81	33	88	32	77	58	69	42	76	35	55	35
79	28	February	54	32	69	22	46	26	67	24	105	37	58	25	97	22	98	40	70	37	68	39	74	41	77	51	91	36	75	41	89	44	80	44	87	34
62	47	March	75	39	79	33	69	31	74	35	94	40	77	26	84	41	106	62	95	40	98	51	98	39	88	45	87	46	83	52	108	45	76	57	72	56
66	35	April	48	36	62	38	78	36	79	36	85	44	75	42	72	32	72	41	83	56	94	51	81	48	82	37	85	44	74	41	72	47	72	47	77	44
62	36	May	55	25	55	38	69	48	60	40	75	49	75	40	68	36	76	43	80	34	76	33	73	46	76	57	72	47	85	59	66	42	62	36	71	51
60	43	June	52	24	62	23	56	44	64	26	73	32	75	31	64	28	75	39	72	33	60	35	60	34	71	52	58	45	72	44	59	41	51	34	73	48
39	42	July	55	26	65	28	48	24	60	37	69	41	56	49	62	40	64	43	85	52	57	42	73	44	59	37	75	47	51	52	75	32	70	36	44	50
54	37	August	69	24	56	30	72	18	53	34	62	31	54	33	48	34	76	37	80	32	88	41	64	44	56	42	57	25	64	39	45	38	58	37	72	42
51	27	September	50	37	60	31	69	37	70	22	69	42	70	31	62	25	60	28	51	36	65	46	77	31	61	29	51	30	72	24	58	40	53	34	57	32
46	27	October	67	22	58	30	65	27	64	28	67	34	56	33	83	42	73	32	67	34	73	46	63	40	61	40	63	56	59	33	52	37	62	33	53	38
56	28	November	72	21	60	25	75	24	71	31	70	27	76	36	84	40	65	26	68	28	72	27	77	36	62	35	79	33	61	36	63	28	52	38	66	33
75	42	December	70	27	64	32	62	34	81	29	62	21	69	38	93	48	81	51	74	32	80	35	73	38	72	40	60	39	64	29	85	37	60	32	80	51
700	421	Total	723	333	781	357	781	378	811	375	914	435	811	425	880	415	951	489	926	453	909	491	885	480	846	498	866	480	837	508	841	473	772	463	807	514

TABLE NO. 25.

DEATH FROM TUBERCULOSIS OF CITY RESIDENTS AT OUTSIDE INSTITUTIONS—1916.

Month.	Sabillasville.		Eudowood.		Jewish Home.		Total.		Total
	M.	F.	M.	F.	M.	F.	M.	F.	
January	5	3	2	1	..	..	7	4	11
February	3	1	3	3	..	3	6	7	13
March	5	2	1	3	..	..	6	5	11
April	4	2	3	..	..	1	7	3	10
May	5	2	2	2	1	..	8	4	12
June	4	4	2	1	..	1	6	6	12
July	2	2	2	..	1	..	5	2	7
August	5	..	1	1	1	..	7	1	8
September	4	3	1	..	..	..	5	3	8
October	3	1	..	1	3	1	6	3	9
November	1	..	1	..	..	..	2	..	2
December	2	1	2	1	..	2	4	4	8
Total	43	21	20	13	6	8	69	42	111

TABLE NO. 26.

NUMBER OF DEATHS FROM CANCER ACCORDING TO AGES DURING THE YEAR 1916.

Ages.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Under 1 month	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 1 and 3 months	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 3 and 12 months	....	....	....	....	....	....	....	....	1	....	....	....	1
Between 1 and 2 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 2 and 3 years	....	....	....	....	....	....	....	....	1	....	....	....	1
Between 3 and 4 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 4 and 5 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Total under 5 years	....	....	....	....	....	....	....	....	2	....	....	....	2
Between 5 and 9 years	....	....	....	....	....	1	....	....	....	....	....	....	1
Between 10 and 14 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 15 and 19 years	....	....	....	....	....	....	3	....	....	....	....	....	3
Between 20 and 24 years	1	....	....	....	....	1	....	....	....	1	....	....	3
Between 25 and 29 years	....	....	2	....	....	1	....	....	....	1	....	1	5
Between 30 and 34 years	2	1	1	1	1	1	1	....	1	....	2	1	12
Between 35 and 39 years	1	....	2	1	5	1	2	5	2	....	1	3	23
Between 40 and 44 years	6	4	2	8	4	3	3	5	3	6	5	....	49
Between 45 and 49 years	8	4	8	9	6	4	5	5	11	4	5	8	77
Between 50 and 54 years	9	6	8	8	7	7	8	7	6	8	5	7	86
Between 55 and 59 years	5	3	10	7	9	7	10	8	6	8	7	9	89
Between 60 and 64 years	6	4	4	11	6	7	7	11	5	6	7	8	82
Between 65 and 69 years	5	8	8	8	4	6	7	7	1	7	10	6	77
Between 70 and 74 years	4	1	7	6	7	4	9	3	5	5	3	2	56
Between 75 and 79 years	5	3	2	5	4	3	4	2	2	5	4	6	45
Between 80 and 84 years	1	3	1	2	1	....	1	1	2	....	....	1	13
Between 85 and 89 years	1	1	1	2	....	....	2	2	1	2	....	....	12
Between 90 and 94 years	....	....	....	....	....	....	1	....	....	....	....	....	1
Between 95 and 99 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Over 100 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	54	38	56	68	54	46	63	56	47	53	49	52	636

TABLE NO. 27.

CANCER.

DEATHS AND DEATH RATES FOR WHITE, COLORED AND TOTAL POPULATION FOR THE YEAR 1903 TO 1916, INCLUSIVE.

Year.	Total Deaths.	Death Rate per 1,000 Population.	White No. of Deaths.	White Death Rate per 1,000 Population.	No. of Deaths. Colored	Colored Death Rate per 1,000 Population.
1903	370	0.71	329	0.74	41	0.50
1904	450	0.85	388	0.87	62	0.76
1905	437	0.82	376	0.83	61	0.74
1906	450	0.83	390	0.85	60	0.72
1907	473	0.87	417	0.90	56	0.67
1908	449	0.82	386	0.83	63	0.75
1909	450	0.81	393	0.84	57	0.67
1910	529	0.95	474	1.00	55	0.65
1911	526	0.93	469	0.98	57	0.66
1912	545	0.96	480	0.99	65	0.75
1913	598	1.04	510	1.05	88	1.01
1914	595	1.03	515	1.05	80	0.91
1915	627	1.07	564	1.14	63	0.72
1916	636	1.08	551	1.10	85	0.96

Non-residents (1916)—White, 74; Colored, 6; Total, 80.

TABLE NO. 28.

DEATHS FROM CANCER, BY SEX, COLOR AND SOCIAL CONDITION—1916.

Social Condition.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Single.	43	35	4	4	86
Married.	170	149	17	26	362
Widowed.	44	105	4	28	181
Divorced.	1	1	. .	1	3
Not Given.	3	. .	. .	1	4
Total.	261	290	25	60	636

TABLE NO. 29.

NUMBER OF DEATHS FROM HEART DISEASE ACCORDING TO AGES DURING THE YEAR 1916.

Ages.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Under 1 month	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 1 and 3 months	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 3 and 12 months	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 1 and 2 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 2 and 3 years	....	....	....	....	....	1	....	....	1	....	....	....	2
Between 3 and 4 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 4 and 5 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Total under 5 years	....	....	....	....	....	1	....	....	1	....	....	....	2
Between 5 and 9 years	2	2	....	....	1	2	....	1	....	....	2	3	13
Between 10 and 14 years	1	1	1	3	2	3	1	....	....	1	....	1	14
Between 15 and 19 years	1	....	3	2	2	2	3	3	2	2	....	1	21
Between 20 and 24 years	....	5	2	....	1	1	....	4	3	....	3	2	21
Between 25 and 29 years	1	2	2	4	4	4	1	7	4	2	2	4	37
Between 30 and 34 years	7	4	6	2	4	....	2	3	2	2	2	2	36
Between 35 and 39 years	6	5	5	5	2	3	4	4	7	8	8	2	59
Between 40 and 44 years	5	12	10	4	7	5	4	5	6	12	6	9	85
Between 45 and 49 years	8	6	7	10	4	8	4	4	8	12	8	9	88
Between 50 and 54 years	8	19	16	4	8	8	8	9	7	7	11	21	126
Between 55 and 59 years	8	10	9	14	13	9	6	8	4	12	8	16	117
Between 60 and 64 years	13	8	12	12	11	12	6	5	12	8	10	7	116
Between 65 and 69 years	15	13	13	16	8	8	10	8	7	7	12	12	129
Between 70 and 74 years	15	13	20	12	7	10	10	4	8	9	12	14	134
Between 75 and 79 years	13	12	11	11	7	2	6	6	6	9	12	14	109
Between 80 and 84 years	11	4	8	6	5	7	3	5	7	4	7	8	75
Between 85 and 89 years	3	2	2	4	1	1	....	2	1	3	4	3	26
Between 90 and 94 years	3	....	....	1	....	....	....	....	2	....	1	1	8
Between 95 and 99 years	....	....	....	....	....	....	....	....	....	1	....	....	1
Over 100 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	120	118	127	110	87	86	68	78	87	99	108	129	1,217

TABLE NO. 30.

HEART DISEASE.

DEATHS AND DEATH RATES FOR WHITE, COLOREL AND TOTAL POPULATION FOR THE YEAR 1903 TO 1916, INCLUSIVE.

Year.	Total Deaths.	Death Rate per 1,000 Population.	White No. of Deaths.	White Death Rate per 1,000 Population.	Colored No. of Deaths.	Colored Death Rate per 1,000 Population.
1903	757	1.44	575	1.30	182	2.24
1904	815	1.54	578	1.29	237	2.89
1905	835	1.56	626	1.39	209	2.53
1906	881	1.63	621	1.36	260	3.13
1907	894	1.64	654	1.42	240	2.87
1908	873	1.59	658	1.41	215	2.56
1909	876	1.58	652	1.39	224	2.65
1910	1030	1.84	752	1.59	278	3.26
1911	985	1.74	714	1.49	271	3.16
1912	1012	1.78	750	1.55	262	3.04
1913	970	1.69	695	1.42	275	3.17
1914	1067	1.84	769	1.56	298	3.41
1915	1081	1.85	818	1.65	263	2.99
1916	1217	2.06	907	1.81	310	3.44

Non-residents (1916)—White, 30; Colored, 6; Total, 36.

TABLE NO. 31.

DEATHS FROM HEART DISEASE BY SEX, COLOR AND SOCIAL CONDITION—1916.

Social Condition.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Single.	103	76	34	24	237
Married.	232	153	89	51	525
Widowed.	93	228	21	81	423
Divorced.	3	4	1	..	8
Not Given.	12	3	8	1	24
Total.	443	464	153	157	1,217

TABLE NO. 32. NUMBER OF DEATHS FROM BRONCHO-PNEUMONIA ACCORDING TO AGES DURING THE YEAR 1916.

Ages.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Under 1 month	3	1	5	7	6	1	....	2	3	2	4	2	36
Between 1 and 3 months	4	4	8	6	4	2	2	1	4	3	1	6	45
Between 3 and 12 months	20	21	26	24	10	8	7	12	7	4	3	10	152
Between 1 and 2 years	10	6	24	20	6	2	4	5	6	7	2	3	95
Between 2 and 3 years	7	3	9	6	1	3	1	....	4	1	3	2	40
Between 3 and 4 years	....	3	1	1	3	1	....	1	....	....	....	1	11
Between 4 and 5 years	2	2	....	2	....	....	....	....	....	1	....	1	8
Total under 5 years	46	40	73	66	30	17	14	21	24	18	13	25	387
Between 5 and 9 years	....	....	3	1	4	1	....	1	....	....	1	2	13
Between 10 and 14 years	1	....	3	1	2	1	1	....	....	....	....	....	9
Between 15 and 19 years	1	....	....	....	....	....	....	....	....	....	....	....	1
Between 20 and 24 years	1	....	....	1	....	....	....	1	1	1	....	....	5
Between 25 and 29 years	....	3	....	1	....	....	....	....	....	....	....	....	4
Between 30 and 34 years	3	1	1	1	....	....	1	....	....	1	1	....	9
Between 35 and 39 years	1	....	2	1	1	....	1	....	1	....	....	2	9
Between 40 and 44 years	1	1	2	....	....	3	1	....	....	....	....	....	8
Between 45 and 49 years	3	1	1	1	....	....	1	....	1	1	2	1	12
Between 50 and 54 years	2	2	2	3	1	2	....	1	....	....	3	....	16
Between 55 and 59 years	2	....	2	3	1	....	1	....	....	....	....	....	9
Between 60 and 64 years	3	4	....	2	2	....	....	2	1	....	3	3	20
Between 65 and 69 years	2	1	2	3	1	....	....	1	2	1	3	4	20
Between 70 and 74 years	3	2	8	4	3	....	....	1	3	....	1	5	30
Between 75 and 79 years	4	6	3	....	2	2	2	....	....	1	....	....	20
Between 80 and 84 years	2	2	1	3	4	....	....	1	....	1	1	1	16
Between 85 and 89 years	2	3	1	1	2	....	....	....	1	1	3	1	15
Between 90 and 94 years	1	....	....	....	1	1	....	....	....	1	1	....	5
Between 95 and 99 years	2	....	....	....	....	....	....	....	....	....	....	1	3
Over 100 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	80	66	104	92	54	27	22	29	34	26	32	45	611

TABLE NO. 33.

PNEUMONIA (BRONCHO).

DEATHS AND DEATH RATES FOR WHITE, COLORED AND TOTAL POPULATION FOR THE YEARS 1903 TO 1916, INCLUSIVE.

Year.	Total Deaths.	Death Rate per 1,000 Population.	White No. of Deaths.	White Death Rate per 1,000 Population.	Colored No. of Deaths.	Colored Death Rate per 1,000 Population.
1903	360	0.69	204	0.46	102	1.25
1904	240	0.45	144	0.32	96	1.17
1905	313	0.59	210	0.46	103	1.25
1906	389	0.72	249	0.55	140	1.69
1907	355	0.65	227	0.49	128	1.53
1908	316	0.58	191	0.41	125	1.49
1909	380	0.69	225	0.48	155	1.83
1910	354	0.63	252	0.53	102	1.20
1911	412	0.73	274	0.57	138	1.61
1912	459	0.81	314	0.65	145	1.68
1913	560	0.97	375	0.77	185	2.13
1914	373	0.64	409	0.83	164	1.88
1915	563	0.96	382	0.77	181	2.06
1916	611	1.04	393	0.78	218	2.46

Non-residents (1916)—White, 14; Colored, 2; Total, 16.

TABLE NO. 34.

DEATHS FROM BRONCHO PNEUMONIA, BY SEX AND COLOR, FOR EACH CALENDAR MONTH—1916.

Month.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
January.	22	31	13	14	80
February.	21	23	11	11	66
March.	37	38	11	18	104
April.	34	24	15	19	92
May.	13	19	13	9	54
June.	6	5	7	9	27
July.	5	9	4	4	22
August.	11	7	5	6	29
September. . . .	6	13	8	7	34
October.	8	11	2	5	26
November.	11	9	6	6	32
December.	18	12	7	8	45
Total.	192	201	102	116	611

TABLE NO. 35.

DEATHS FROM BRONCHO-PNEUMONIA, BY SEX, COLOR AND SOCIAL CONDITION, 1916.

Social Condition.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Single.	134	133	86	94	447
Married.	27	23	12	9	71
Widowed.	27	44	4	12	87
Divorced.	..	..	..	..	..
Not given. . . .	4	1	..	1	6
Total.	192	201	102	116	611

TABLE NO. 36. NUMBER OF DEATHS FROM LOBAR PNEUMONIA ACCORDING TO AGE DURING THE YEAR 1916.

Ages.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Under 1 month	....	2	....	1	....	....	....	....	....	1	....	1	5
Between 1 and 3 months	2	4	....	2	....	....	....	....	1	....	1	....	10
Between 3 and 12 months	5	5	6	2	1	1	1	....	1	6	3	2	33
Between 1 and 2 years	1	3	2	7	3	2	....	1	1	1	....	3	24
Between 2 and 3 years	3	....	1	....	1	2	....	....	1	....	1	1	10
Between 3 and 4 years	....	....	2	2	1	....	....	1	....	....	....	....	6
Between 4 and 5 years	....	....	3	....	....	1	....	....	....	....	....	....	4
Total under 5 years	11	14	14	14	6	6	1	2	4	8	5	7	92
Between 5 and 9 years	3	....	....	4	1	1	3	....	....	....	....	1	13
Between 10 and 14 years	3	1	....	2	2	1	1	....	....	....	1	2	13
Between 15 and 19 years	6	2	1	1	1	2	....	....	1	....	....	1	15
Between 20 and 24 years	4	4	4	2	5	....	....	2	1	1	....	3	26
Between 25 and 29 years	8	4	2	5	1	....	1	1	1	1	....	7	31
Between 30 and 34 years	1	5	7	9	5	....	....	1	1	5	3	2	39
Between 35 and 39 years	11	6	7	7	5	1	....	1	....	7	5	5	55
Between 40 and 44 years	13	8	5	9	1	6	3	2	1	4	5	9	66
Between 45 and 49 years	14	11	8	4	4	3	1	....	2	2	4	7	60
Between 50 and 54 years	7	15	16	7	5	....	2	1	1	3	4	10	61
Between 55 and 59 years	17	11	12	9	3	2	....	2	2	1	3	12	74
Between 60 and 64 years	12	7	11	5	5	4	....	....	2	1	4	11	62
Between 65 and 69 years	16	9	5	10	6	3	....	....	....	....	1	5	55
Between 70 and 74 years	13	8	8	6	3	1	1	1	....	....	3	7	51
Between 75 and 79 years	3	8	4	6	4	....	1	1	1	2	2	6	38
Between 80 and 84 years	3	1	8	2	5	1	....	2	1	....	1	2	26
Between 85 and 89 years	4	1	....	2	....	....	....	....	....	....	1	1	9
Between 90 and 94 years	....	1	....	....	....	....	....	....	....	....	....	2	3
Between 95 and 99 years	....	....	1	....	1	....	....	....	....	....	....	....	2
Over 100 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	149	106	113	104	63	31	14	16	18	35	42	100	791

TABLE NO. 37.

PNEUMONIA (LOBAR).

DEATHS AND DEATH RATES FOR WHITE, COLORED AND TOTAL POPULATION FOR THE YEARS 1903 TO 1916, INCLUSIVE.

Year.	Total Deaths.	Death Rate per 1,000 Population.	White No. of Deaths.	White Death Rate per 1,000 Population.	Colored No. of Deaths.	Colored Death Rate per 1,000 Population.
1903	795	1.52	522	1.18	273	3.35
1904	881	1.66	566	1.26	315	3.84
1905	784	1.47	513	1.14	271	3.29
1906	675	1.25	433	0.95	242	2.91
1907	739	1.36	458	0.99	281	3.36
1908	624	1.14	392	0.84	232	2.76
1909	735	1.33	498	1.06	237	2.80
1910	705	1.26	518	1.09	187	2.19
1911	702	1.24	460	0.96	242	2.82
1912	589	1.03	373	0.77	216	2.50
1913	636	1.11	425	0.87	211	2.43
1914	628	1.08	425	0.86	203	2.32
1915	617	1.06	422	0.85	195	2.22
1916	791	1.34	554	1.11	237	2.68

Non-residents (1916)—White, 27; Colored, 10; Total, 37.

TABLE NO. 38.

DEATHS FROM LOBAR PNEUMONIA, BY SEX AND COLOR, FOR EACH CALENDAR MONTH—1916.

Month.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
January.	47	58	24	20	149
February.	42	29	23	12	106
March.	51	38	13	11	113
April.	48	24	18	14	104
May.	22	20	12	9	63
June.	11	5	10	5	31
July.	7	3	1	3	14
August.	6	6	2	2	16
September. . . .	13	4	1	. .	18
October	12	10	10	3	35
November. . . .	12	16	10	4	42
December.	40	30	16	14	100
Total.	311	243	140	97	791

TABLE NO. 39.

DEATHS FROM LOBAR PNEUMONIA, BY SEX, COLOR AND SOCIAL CONDITION—1916.

Social Condition.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Single.	102	71	62	36	271
Married.	148	82	57	34	321
Widowed.	58	89	19	27	193
Divorced.	1	. .	. .	. .	1
Not given. . . .	2	1	2	. .	5
Total.	311	243	140	97	791

TABLE NO. 40.

NUMBER OF DEATHS FROM DIARRHOEA AND ENTERITIS UNDER 2 YEARS OF AGE, ACCORDING TO SEX AND COLOR DURING THE YEAR 1916.

Months.	Under 1 Month.				Between 1 & 3 Mos.				Between 3 & 12 Mos.				Between 1 & 2 Yrs.				Total.				Grand Total.
	White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
January	1	2	..	..	1	..	..	..	..	3	1	..	2	1	1	..	4	6	2	..	12
February	..	..	1	..	2	1	1	1	1	5	..	..	2	1	..	1	5	7	2	2	16
March	1	1	..	..	3	2	1	..	4	2	..	..	2	..	..	..	10	5	1	..	16
April	1	1	..	..	3	1	..	..	2	5	..	3	3	..	..	1	9	7	..	4	20
May	1	2	..	..	1	..	1	..	4	3	..	1	1	..	..	1	7	5	1	2	15
June	1	2	..	..	2	2	..	..	4	3	1	2	1	..	1	..	8	7	2	2	19
July	..	3	2	1	7	6	7	1	32	24	17	7	8	5	1	4	47	38	27	13	125
August	4	..	2	1	11	10	2	3	44	47	3	8	8	9	4	7	67	66	21	19	173
September	..	..	1	1	4	5	5	4	23	21	4	8	7	6	3	1	34	32	13	14	93
October	1	3	..	..	5	3	4	3	7	11	5	2	2	3	1	1	15	20	10	6	51
November	1	..	..	..	4	1	3	..	6	7	1	1	1	..	..	..	12	8	4	1	25
December	..	..	..	..	..	2	1	..	5	2	..	2	2	..	1	1	7	4	2	3	16
Total	11	14	6	3	43	33	25	12	132	133	42	34	39	25	12	17	225	205	85	66	581

TABLE NO. 41.

DIARRHOEA AND ENTERITIS (UNDER 2 YEARS).

DEATHS AND DEATH RATES FOR WHITE, COLORED AND TOTAL POPULATION FOR THE YEARS 1903 TO 1916, INCLUSIVE.

Year.	Total Deaths.	Death Rate per 1,000 Population.	White No. of Deaths.	White Death Rate per 1,000 Population.	Colored No. of Deaths.	Colored Death Rate per 1,000 Population.
1903	550	1.05	416	0.94	134	1.65
1904	671	1.27	496	1.11	175	2.14
1905	751	1.41	544	1.20	207	2.51
1906	623	1.15	494	1.08	129	1.55
1907	747	1.37	572	1.24	175	2.09
1908	591	1.08	471	1.01	120	1.43
1909	562	1.01	434	0.92	128	1.51
1910	598	1.07	435	0.92	163	1.91
1911	568	1.01	451	0.94	117	1.36
1912	501	0.88	386	0.80	115	1.33
1913	558	0.97	451	0.92	107	1.23
1914	564	0.97	459	0.93	105	1.20
1915	480	0.82	400	0.81	80	0.91
1916	581	0.99	430	0.86	151	1.71

Non-residents (1916)—White, 10; Colored, 1; Total, 11.

TABLE NO. 42. NUMBER OF DEATHS FROM CHRONIC BRIGHT'S DISEASE, ACCORDING TO AGES, DURING THE YEAR 1916.

Ages.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Under 1 month	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 1 and 3 months	....	....	....	....	1	....	....	....	....	....	....	....	1
Between 3 and 12 months	....	....	....	....	....	....	....	....	1	....	....	....	1
Between 1 and 2 years	....	....	....	....	....	....	....	....	....	....	....	1	1
Between 2 and 3 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 3 and 4 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 4 and 5 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Total under 5 years	....	....	....	....	1	....	....	....	1	....	....	1	3
Between 5 and 9 years	....	....	....	....	1	1	....	....	....	....	....	1	3
Between 10 and 14 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Between 15 and 19 years	1	1	....	....	1	....	1	....	1	....	1	....	6
Between 20 and 24 years	....	3	....	....	....	2	1	....	1	1	....	....	8
Between 25 and 29 years	2	....	2	1	3	1	2	1	2	2	4	....	20
Between 30 and 34 years	5	2	2	3	3	3	3	1	1	3	3	2	31
Between 35 and 39 years	2	2	3	3	5	3	3	6	2	3	4	1	37
Between 40 and 44 years	7	6	8	2	3	3	4	5	4	9	5	2	58
Between 45 and 49 years	8	3	6	8	7	10	6	4	5	3	5	6	71
Between 50 and 54 years	10	5	4	3	6	8	9	9	7	9	5	10	85
Between 55 and 59 years	12	5	12	12	9	12	2	8	4	13	11	9	109
Between 60 and 64 years	16	12	9	13	9	6	16	7	5	7	10	8	118
Between 65 and 69 years	10	8	9	6	8	11	5	6	4	10	15	9	101
Between 70 and 74 years	13	11	6	7	12	5	8	11	4	5	9	18	109
Between 75 and 79 years	9	6	8	7	6	3	1	5	5	11	11	10	82
Between 80 and 84 years	5	2	7	4	3	2	4	3	2	....	5	8	45
Between 85 and 89 years	1	1	3	1	....	2	4	....	1	1	2	1	17
Between 90 and 94 years	1	....	....	2	2	1	....	....	....	1	1	2	10
Between 95 and 99 years	....	....	....	....	....	....	....	1	....	....	....	....	1
Over 100 years	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	102	67	79	72	79	73	69	67	49	78	91	88	914

TABLE NO. 43.

CHRONIC BRIGHT'S DISEASE.

DEATHS AND DEATH RATES FOR WHITE, COLORED AND TOTAL POPULATION FOR THE YEARS 1903 TO 1916, INCLUSIVE.

Year.	Total Deaths.	Death Rate per 1,000 Population.	White No. of Deaths.	White Death Rate per 1,000 Population.	Colored. No. of Deaths.	Colored Death Rate per 1,000 Population.
1903	693	1.32	563	1.27	130	1.60
1904	749	1.41	610	1.36	139	1.70
1905	778	1.46	609	1.35	169	2.05
1906	818	1.52	649	1.42	169	2.04
1907	928	1.70	709	1.54	219	2.62
1908	832	1.51	657	1.41	175	2.08
1909	844	1.52	664	1.41	180	2.13
1910	945	1.69	747	1.57	198	2.32
1911	860	1.52	676	1.41	184	2.15
1912	964	1.69	743	1.54	221	2.56
1913	923	1.61	728	1.49	195	2.25
1914	798	1.38	647	1.31	151	1.73
1915	878	1.50	683	1.38	195	2.22
1916	914	1.55	746	1.49	168	1.90

Non-residents (1916)—White, 44; Colored, 6; Total, 50.

TABLE NO. 44.

DEATHS FROM CHRONIC BRIGHT'S DISEASE, BY SEX, COLOR AND SOCIAL CONDITION—1916.

Social Condition.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Single.	74	50	21	21	166
Married.	239	128	37	42	446
Widowed. . . .	91	155	9	34	289
Divorced.	5	1	. .	. .	6
Not given.	2	1	4	. .	7
Total.....	411	335	71	97	914

TABLE NO. 45.

CONGENITAL DEBILITY, INCLUDING MARASMUS, INANITION, ICTERUS AND SCLEREMA.

DEATHS AND DEATH RATES FOR WHITE, COLORED AND TOTAL POPULATION FOR THE YEARS 1903 TO 1916, INCLUSIVE.

Year.	Total Deaths.	Death Rate per 1,000 Population.	White No. of Deaths.	White Death Rate per 1,000 Population.	Colored. No. of Deaths.	Colored. Death Rate per 1,000 Population.
1903	450	0.86	308	0.70	142	1.74
1904	545	1.03	374	0.84	171	2.09
1905	508	0.95	344	0.76	164	1.99
1906	639	1.18	491	1.08	148	1.78
1907	793	1.46	618	1.34	175	2.09
1908	789	1.44	607	1.30	182	2.16
1909	628	1.13	502	1.07	126	1.49
1910	655	1.17	486	1.02	169	1.98
1911	549	0.97	411	0.86	138	1.61
1912	702	1.23	567	1.17	135	1.56
1913	631	1.10	476	0.98	155	1.78
1914	579	1.00	411	0.84	168	1.92
1915	492	0.84	385	0.78	107	1.22
1916	458	0.78	354	0.71	104	1.18

Non-residents (1916)—White, 2; Colored, 1; Total, 3.

TABLE NO. 46.

AVERAGE AGE AT DEATH, ALL CAUSES, WHITE AND COLORED —YEARS 1912 TO 1916.

Year.	Total Deaths.	Total Ages.	Average Age at Death.
1912.			
White.	7,835	313,898.79	40.063
Colored.	2,606	78,995.52	30.312
1913.			
White.	7,951	310,492.82	39.050
Colored.	2,765	85,448.76	30.903
1914.			
White.	7,914	328,686.63	41.532
Colored.	2,637	84,097.56	31.891
1915.			
White.	7,525	318,823.31	42.368
Colored.	2,477	85,109.00	34.359
1916.			
White.	7,983	344,937.88	43.209
Colored.	2,736	85,532.18	31.262

TABLE NO. 47.

DEATHS FROM ALL CAUSES OF CHILDREN UNDER 5 YEARS OF AGE, BY SEX AND COLOR.

Age.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Under 1 month	303	246	126	75	750
Between—					
1 & 3 mos...	113	88	51	47	299
3 & 12 mos..	282	247	98	107	734
1 & 2 yrs...	128	121	57	61	367
2 & 3 yrs...	40	51	36	33	160
3 & 4 yrs...	34	25	10	16	85
4 & 5 yrs...	22	19	13	6	60
Total.	922	797	391	345	2,455

Report of the Quarantine Station

QUARANTINE STATION, January 2, 1917.

JOHN D. BLAKE, M. D.,

Commissioner of Health.

DEAR DOCTOR:

I herewith submit my annual report of the business of the Quarantine Station for the year ending December 31, 1916.

One thousand, two hundred and four vessels were boarded and inspected, the crews of which numbered 38,414 and the passengers carried numbered 219, making a total of 38,643 persons examined during the year.

The total receipts of the Station from all sources amounted to $35,423.15 during the year.

Only two cases of smallpox were treated during the year, they having been taken off a vessel. No other quarantinable diseases were received from the vessels or the city of Baltimore except one case of leprosy in the person of the colored man sent from the city early in the summer.

Respectfully,

THOS. L. RICHARDSON,

Quarantine Officer, Port of Baltimore.

TABLE NO. 1.

NUMBER OF VESSELS BOARDED AND INSPECTED, AND THE NUMBER OF PERSONS EXAMINED AT QUARANTINE STATION DURING THE YEAR ENDING DECEMBER 31, 1916.

Months.	Number of Vessels Inspected.	Number of Persons Inspected.		
		Crews.	Passengers.	Total.
1916.				
January	88	2.662	3	2.665
February	79	2.229	5	2.234
March	88	2.712	22	2.734
April	97	3.027	10	3.037
May	116	3.350	11	3.361
June	114	3.689	13	3.702
July	125	4.019	22	4.041
August	114	3.753	14	3.767
September	94	3.322	20	3.342
October	89	3.103	8	3.111
November	97	3.208	81	3.289
December	103	3.340	10	3.350
Total	1,204	38.414	219	38.643

TABLE NO. 2.

AMOUNT OF MONEY RECEIVED FOR QUARANTINE FEES AND PAID INTO THE CITY TREASURY DURING THE YEAR ENDING DECEMBER 31, 1916.

Months.	Vessels.	Care of Patients, Fumigation of Vessels, Etc.	Represents Total Business, 1916.	Total Collections Paid Into City Treasury, 1916.
1916.				
January.	$2,090 81	$690 00	$2,780 81	$2,390 35
February.	1,673 16	595 00	2,268 16	2,228 66
March.	1,996 56	445 00	2,441 56	2,593 41
April.	2,175 53	755 00	2,930 53	2,925 32
May.	2,518 28	778 50	3,296 78	3,545 56
June.	2,653 41	575 00	3,228 41	2,807 88
July.	2,862 02	816 00	3,678 02	3,425 88
August.	2,657 26	570 00	3,227 26	3,713 00
September.	2,336 32	528 00	2,864 32	3,081 67
October.	2,183 20	530 00	2,713 20	2,370 43
November.	2,361 61	600 00	2,961 61	2,848 60
December.	2,357 49	675 00	3,032 49	3,375 41
Total.	$27,865 65	$7,557 50	$35,423 15	$35,306 17

Report of the Division of Bacteriology

BALTIMORE, January 1, 1917.

JOHN D. BLAKE, M. D.,

Commissioner of Health.

DEAR SIR:

I hereby respectfully report on the work performed in the Division of Bacteriology of the Sub-Department of Health during the year ending December 31, 1916:

BACTERIOLOGICAL EXAMINATION OF WATER SUPPLY.

Computing the results of the bacteriological examination of the water for the entire year, one finds that the colon bacillus was isolated from 0.1 c. c. in 1.3% of cases, from 1 c. c. in 5.0% of cases, and from 10 c. c. in 13.4% of cases, these samples being obtained from the various taps throughout the city, autoclaved lactose bouillon being used as a medium. This high percentage of colon bacilli as compared to the results obtained at the filtration plant may be partially explained by the fact that the autoclaving of the lactose bouillon caused by an inversion of a portion of the lactose to glucose by organisms other than true lactose fermenting organisms.

BACTERIOLOGICAL EXAMINATION OF MILK.

During the past year we made 10,691 regular bacteriological examinations of milk, and examined 5,221 specimens for an excessive number of leucocytes and streptococci, mak-

ing a total of 15,912 examinations of milk. These results have been reported to the Bureau of Food and Dairy Inspection, and various tables obtained from these results can be consulted in the report of the above mentioned Bureau.

Clerical Subdivision.

Table No. 1, which follows, gives the report of the clerical subdivision under the charge of Mr. Harry L. Carman. This shows that we made 47,928 laboratory examinations, and the work in detail can be seen by consulting the table.

TABLE NO. 1.

EXAMINATIONS OF SPECIMENS TO DETERMINE THE PRESENCE OF DISEASE FROM JANUARY 1, 1916, TO DECEMBER 31, 1916.

Diphtheria Examinations for Physicians:	
Positive cultures	990
Negative cultures	3,653
Suspicious cultures	93
Unsatisfactory cultures	137
Total cultures	4,873
Positive cultures of school children's throats and noses	0
Negative cultures of school children's throats and noses	40
Total cultures	40
Positive cultures from throats examined by throat inspectors	683
Positive cultures from noses examined by throat inspectors	644
Negative cultures from throats examined by throat inspectors	4,589
Negative cultures from noses examined by throat inspectors	4,425
Contaminated cultures from noses and throats examined by throat inspectors	279
Suspicious cultures from noses and throats examined by throat inspectors	91
Total cultures	10,711
Positive cultures from institutions and hospitals	289
Negative cultures from institutions and hospitals	1,830
Suspicious cultures from institutions and hospitals	40
Contaminated cultures from institutions and hospitals	62
Total cultures	2,221

TABLE NO. 1 (Continued).

EXAMINATIONS OF SPECIMENS TO DETERMINE THE PRESENCE OF DISEASE FROM JAN. 1, 1916, TO DEC. 31, 1916.

Tuberculosis:	
Positive results	538
Negative results	1,492
Suspicious results	51
Unsatisfactory results	29
Total specimens	2,110
Typhoid Fever:	
Positive reactions	560
Negative reactions	1,029
Suspicious reactions	300
Unsatisfactory reactions	12
Total reactions	1,901
Blood Examined for Paratyphoid:	
Positive	172
Negative	1,080
Suspicious	231
Unsatisfactory	3
Total reactions	1,486
Typhoid Bacillus from Blood, Urine and Feces Cultures:	
Positive results	25
Negative results	388
Unsatisfactory results	7
Total results	420
Paratyphoid Bacillus from Blood, Urine and Feces Cultures:	
Positive results	1
Negative results	412
Unsatisfactory results	7
Total results	420
Malaria:	
Positive results	3
Negative results	333
Suspicious results	1
Unsatisfactory results	139
Total results	476

TABLE NO. 1 (Continued).

EXAMINATIONS OF SPECIMENS TO DETERMINE THE PRESENCE OF DISEASE FROM JAN. 1, 1916, TO DEC. 31, 1916.

Wassermann Reaction:	
Positive reactions	103
Negative reactions	289
Suspicious reactions	81
Unsatisfactory reactions	41
Total reactions	514
Units of antitoxin supplied to indigent cases	9,353,000
Units of antitoxin returned by physicians account of not being used	178,000
Points of small-pox vaccine issued during the year	9,820
Complete doses of antityphoid vaccine furnished	4,105
Miscellaneous examinations	332
Water examinations	1,533
Milk examinations	10,691
Oyster examinations	44
Examination of milk for leucocytes and streptococci	5,221
Special water examinations	422
Examination of control cultures for disinfection	4,513
Total number of examinations	47,928

Respectfully submitted,

WM. ROYAL STOKES,

Chief, Division of Bacteriology.

Report of the Medical Inspectors of Schools

BALTIMORE, July 1, 1916.

DR. JOHN D. BLAKE,

Commissioner of Health.

DEAR DOCTOR:

We, the undersigned, medical inspectors of schools of Baltimore City, herewith respectfully submit our report of the work done during the scholastic year of 1915-1916:

As in former years, we began our work at the opening of the school term in the Fall, with an inspection of every child in the public and parochial schools up to and including the fourth grade. We also examined all other children in these schools upon request. The first inspection was completed about March 1st, at which time we immediately began our reinspection. In reinspecting we again went through the schools, this time examining all children who were absent on our first inspection or who had become enrolled since, together with all those children whom we had previously found defective. By referring to Table No. 2, you will note that in our review we have grouped these children reinspected under the headings "Cured," "Improved," and "Not Improved." This table shows in a concrete form the results obtained from our work. By referring to column 1 you will find that 7,362 conditions were cured, 4,370 conditions were improved, and 10,852 conditions were not improved.

All children not vaccinated were excluded from school until vaccination was performed. This vaccination was done by their family physician, or, upon request, the health wardens of this Department performed this duty gratis. Upon presentation of a certificate stating that vaccination had been performed, a child was immediately allowed to return to school for ten days, at the end of which time the child returned to the physician performing the vaccination for an endorsement of the certificate, stating that the vaccination was successful. Upon presentation of this endorsement the child was admitted to school indefinitely. If the vaccination was not successful, the same was ordered repeated. We have had some little trouble in the schools owing to the fact that notwithstanding orders to the contrary, children have been admitted to the schools without a proper vaccination certificate. We feel that if the necessity for this certificate were properly impressed upon the various teachers, or upon the principal of each school, that the comparatively large number of children found unvaccinated last year (1,863) would be materially reduced.

We respectfully suggest:

(1) That the work in the schools be revised to correspond to the fiscal year instead of the scholastic year, as at present—that is, that the inspection be started January 1st (in-instead of October 1st, and that the reinspection be started October 1st (instead of March 1st). By doing this the report of the school work will correspond to the reports of the other subdivisions of the Health Department. Further, it would allow the school nurses (who are this year for the first time working all through the summer) from the close of school in the Spring until the opening of school in the Fall to round up the defective children and have the various defects corrected. In this manner we feel we could accomplish better results. We would suggest that this be started this Fall.

(2) We would call your attention to the imperative need of a dentist in the public schools. This is particularly true in the colored schools. By referring to Table No. 1 you will note that last year we found 5,420 children with defective teeth, and by referring to Table No. 2 you will further note that between 2,000 and 3,000 of these children were not treated. It has been the experience of our nurses that in most instances the mothers are very willing to have defective teeth treated. There is no colored dental clinic in Baltimore at this time. Several of the schools have raised money for a dental chair and equipment, and if the Health Department could have one or two dentists added to the medical inspectors of schools we feel much good would be accomplished.

(3) We suggest the advisability of examining the teachers in the public schools, the teachers to be examined by the school physician for the usual defects and by the school nurse for evidence of successful vaccination.

(4) Every large school in Baltimore should have at least one open-air class. We find many children in each school who, we are convinced, would be immeasurably benefited by such classes. Open-air classes are no longer in the experimental stage, and we believe Baltimore is one of the few cities of its size in the country that does not have regular open-air classes. In the event that open-air classes are impracticable at this time, we would suggest that in every large school a room be set aside to be known as the "open-air" room, in which the windows would remain constantly open, the children to be admitted to this class only upon recommendation of the school physician and consent of the parents or guardian.

(5) A medical record of each school child is now kept on a suitable card. These cards are filed in the classroom. We respectfully suggest that the School Board impress upon the

various teachers in our public schools the necessity of children, in transferring from one school to another, taking with them their medical record card. In many instances this is not done, and sometimes the entire medical record of three or four years' duration is thus lost. This could be obviated if the principal of the school to which the child applies for transfer would require the presentation of this card before the child is accepted for enrollment.

(6) Since slates have been abolished in the public schools, and children are now doing their work with pencil and paper, the children are furnished lead pencils by the school. These pencils are collected at the end of the day's work and reissued the next day, and we have noted especially in the younger classes that these pencils are more or less continually in the mouths of the children, and, on account of the system used, the next day are in the mouths of other children. We would suggest that each child be required to keep his or her own pencil and that pencils not be transferred from one child to another.

(7) It is our opinion that great benefit would be derived from the establishment in each school of a class for retarded or mentally deficient children.

(8) We suggest that the Committee on Hygiene of the School Board be notified that it is our opinion that much good would be accomplished if this committee or a member representing this committee would attend the regular monthly meetings of the Medical Inspectors of Public Schools, and we further suggest that you extend a suitable invitation to this committee.

(9) We are unanimously of the opinion that were the present truant officers appointed by the School Board trained nurses, they would be in position to accomplish much more good. Nurses could be obtained for these positions at about the same salary as now paid. We feel that if

this were brought to the attention of the School Board they might consider this suggestion.

(10) We believe benefit would be derived from regular monthly meetings of the Medical Inspectors of Public Schools. We would suggest that such meetings be held on the first Friday of each month at 3 P. M., in the office of the Assistant Commissioner of Health in charge of school work.

Respectfully submitted,

W. P. Stubbs, M. D.,
A. L. Fehsenfeld, M. D.,
H. Warren Buckler, M. D.,
A. K. Bond, M. D.,
Henry B. Kolb, M. D.,

Medical Inspectors of Schools.

TABLE NO. 1.

COMPLETE REPORT.

	Defective. New Pupils	Defective. Old Pupils	Old Pupils Defects. New	Total.
EAR—				
Deafness	20	97	59	176
Otitis Media	21	31	16	68
Tumor of Eye Ball	.....	2	.....	2
Otorrhoea	10	9	13	32
Nystagmus	1	.....	.....	1
EYE—				
Blepharatis	229	167	180	576
Keratitis	1	.....	.....	1
Cataract	.....	.....	.....	.....
Obstructed Tear Duct	.....	1	1	2
Conjunctivitis	16	2	38	56
Corneal Ulcer	.....	.....	1	1
Eye Strain	325	611	670	1,606
Blind in 1 Eye	1	4	4	9
Opacity	7	22	14	43
Ptosis	7	3	3	13
Strabismus	75	139	82	296
Cyst	2	.....	3	5
Stye	18	6	32	56
Exophthalmia	1	.....	.....	1
HAIR—				
Alopecia	1	1	1	3
Ringworm	63	46	67	176
Pediculosis	955	1,442	1,100	3,497
Seborrhoea	3	.....	1	4
MOUTH—				
Teeth (defective)	1,534	2,136	1,750	5,420
Tongue Tie	5	5	.....	10
Tumor of Tongue	2	.....	.....	2
Cleft Palate	2	1	1	4
Hare Lip	1	.....	1	2
Defective Speech	1	1	.....	2

TABLE NO. 1 (Continued).

COMPLETE REPORT.

	New Pupils Defective.	Old Pupils Defective.	Old Pupils New Defects.	Total.
NOSE—				
Adenoids	1,902	2,855	1,793	6,550
Deviated Septum	1	.....	.....	1
Rhinitis	282	138	215	635
Nasal Obstruction	.....	1	.....	1
NERVOUS SYSTEM—				
Chorea	1	14	5	20
Nervousness	2	5	3	10
Epilepsy	5	9	5	19
Stuttering	2	5	3	10
Mental Deficiency	58	112	50	220
Paralysis (Infantile)	13	32	6	51
SKIN—				
Acne	10	7	17	34
Dermatitis	7	1	3	11
Skin Eruption	30	3	34	67
Eczema	14	5	12	31
Herpes	.....	.....	1	1
Impetigo	66	105	51	222
Ichthyosis	2	.....	3	5
Ringworm	9	2	1	12
Furunculosis	.....	.....	3	3
Scabies	.....	.....	.....	.....
Sebaceous Cyst	7	1	3	11
THROAT—				
Pharyngitis	1	1	.....	2
Tonsilitis	4	1	3	8
Tonsils (enlarged)	1,593	2,279	1,651	5,523
Laryngitis	.....	1	.....	1
MISCELLANEOUS—				
Adenitis	128	72	112	312
Malnutrition	262	357	187	806
Enuresis	6	12	10	28
T. B. Spine	5	14	1	20
T. B. Joints	7	13	.....	20
T. B. Glands	.....	8	3	11
T. B. Lungs	8	10	5	23

TABLE NO. 1 (Continued).

COMPLETE REPORT.

	NewPupils Defective.	Old Pupils Defective.	Old Pupils New Defects.	Total.
Rachtic Deformities. . .	68	112	61	241
Anemia.	2	.....	1	3
Lameness.	.....	3	1	4
Rheumatism.	.....	.....	3	3
Fractured Hip.	.....	1	.....	1
Tumor of Abdomen.....	.....	1	.....	1
Mumps.	2	.....	.....	2
Filth.	25	5	37	67
Heart Disease.	1	3	1	5
Pertussis.	1	.....	1	2
Alveolar Abscess	1	.....	.....	1
Syphilis.	1	.....	.....	1
Hydrocephalis.	.....	.....	1	1
Torticollis.	1	4	.....	5
Lues.	3	1	2	6

Total No. Pupils Enrolled..... 85,316
Total No Pupils Examined..... 57,167
Total No. Pupils Defective..... 18,154
Total No. Absentees Defective..... 1,666
Total No. Absentees Normal..... 5,082
Total No. Children Excluded..... 1,118
Total No. Not Vaccinated..... 1,863

TABLE NO. 2.

REVIEW REPORT.

	Cured.	Improved.	Not Improved.
EAR—			
Deafness	19	38	33
Otitis Media	18	23	26
Otorrhoea	13	17	13
EYE—			
Blepharitis	191	79	113
Cataract	...	...	1
Conjunctivitis	14	2	2
Eye Strain	551	1,079	564
Keratitis	...	3	11
Opacity	3	9	11
Strabismus	27	154	76
Stye	38	2	2
Tarsal Tumor	...	...	...
Ptosis	...	1	1
Blind in One Eye	1	2	1
HAIR—			
Alopecia	1	...	...
Pediculosis	884	889	1,180
Ringworm	79	27	18
MOUTH—			
Teeth (imperfect)	1,115	1,211	2,105
Tongue-tie	...	...	7
Cleft Palate	1	1	1
Hare Lip	1	...	...

TABLE NO. 2 (Continued).

REVIEW REPORT.

	Cured.	Improved.	Not Improved.
SKIN—			
Acne	...	8	14
Eczema	27	3	...
Ichthyosis	15	1	6
Impetigo	219	14	...
Ringworm	21	18	...
Dermatitis	...	...	1
Scabies	19	10	1
Sebaceous Cyst	...	...	1
Skin Eruptions	42	2	2
Furunculosis	2	...	...
NOSE—			
Adenoids	1,768	330	3,632
Rhinitis	460	22	76
Nasal Obstruction	...	...	1
Deformities	8	...	6
Deviated Septum	...	...	1
NERVOUS SYSTEM—			
Chorea	6	19	1
Epilepsy	...	4	6
Mental Deficiency	1	10	112
Paralysis (Infantile)	...	21	6
Stuttering	...	3	3
Nervous	1	2	2
Defective Speech	...	...	1
THROAT—			
Pharyngitis	...	...	...
Tonsils (enlarged)	1,714	365	2,814
Ac. Tonsilitis	3	...	...
Laryngeal Tumor	...	1	...
Total	7,262	4,370	10,851

TABLE NO. 2 (Continued).

REVIEW REPORT.

	Cured.	Improved.	Not Improved.
DISEASES (General)—			
Adenitis	59	51	140
Debility	67	113	67
Enuresis	17	22	15
T. B. Spine	3	21	3
T. B. Joints	...	7	1
T. B. Lungs	1	1	...
T. S. Lungs (suspect)	...	5	2
T. B. Hip	...	1	...
Rachitic Deformities	1	9	156
Torticollis	1	4	...
Syphilis	...	1	...
Whooping-cough	1	...	...
Filth	1	17	24
Bronchitis	...	3	...
Anaemia	4	11	1
Heart Disease	3	2	5
Malnutrition	31	249	122
Lameness	...	3	...
Broken Back	...	1	...
Asthma	...	1	...
Abnominal Tumor	...	1	...
Total	189	523	536

SYDENHAM HOSPITAL

Staff.

John F. Hogan, M. D. ..... *Superintendent.*

Miss Lillian P. French ..... *Superintendent of Nurses.*

Alexander J. Gillis, M. D. ..... *Assistant Physician.*
(Resigned August 1st, 1916.)

H. H. Johnson, M. D. ..... *Assistant Physician.*
(Appointed August 1st, 1916.)

Consulting Staff.

H. C. Davis, M. D. ..... *Consulting Otologist.*

Arthur M. Shipley, M. D. ..... *Consulting Surgeon.*

Report of Superintendent and Resident Physician of Sydenham Hospital

BALTIMORE, December 31, 1916.

DR. JOHN D. BLAKE,

Commissioner of Health.

DEAR SIR:

Enclosed herewith you will please find the eighth annual report of Sydenham Hospital. You will note that the number of admissions does not equal that of the year 1915, which year excelled all other years in this respect. The decrease in admissions for 1916 is due, no doubt, to the decrease of infectious diseases in Baltimore City during this year. You will note the high rate of mortality in diphtheria, as we had 21 deaths from this disease. Of these 21 deaths, 9 died within 48 hours of admission, leaving 12 cases which should only be charged against the hospital. Of the 9 cases admitted within 48 hours which resulted in death, 5 died within 24 hours of admission.

In submitting this report, I would call your attention to the fact that, notwithstanding the efficient laboratory service which the Baltimore City Health Department renders its public and physicians, I cannot help but feel that the medical profession is not embracing the opportunity and aid afforded it by the Health Department in making an early diagnosis of diphtheria. It is quote unnecessary to state in our present stage of enlightenment of diphtheria, that if the 9 cases which died at Sydenham Hospital within

the first 48 hours had been diagnosed earlier, our rate of mortality would be lower.

I respectfully recommend to you that a post-graduate course be given at this hospital to physicians, as is being done in other cities, so as to acquaint them with the methods of early diagnosis of infectious diseases. I also wish to call your attention to the fact that the University of Maryland sent some of its senior students to the hospital during the Spring of this year, so that these young men might familiarize themselves with the clinical aspects of contagion before entering practice.

I take this opportunity to thank you for the many favors that you have shown me and the invaluable help which you have rendered during the year.

Yours respectfully,

J. F. Hogan, M. D.,
Superintendent and Resident Physician.

REPORT OF SUPERINTENDENT

Ward A.

The interior of this building, with the exception of the cellar, was painted with a paint which is said by its manufacturers to withstand the use of powerful antiseptics and to stand washing without injuring its gloss.

An electric heating device was installed in the thermostat in the laboratory.

An anæsthetizing outfit with foot-pump attachment was purchased for the purpose of administering ether during throat operations.

Radiators were installed in the Sun Parlor of the Scarlet Fever Division, and one of the wards.

Ward B.

The window openings made into heating pit under this ward have improved the ventilation.

Ten rooms were painted in the ward with two coats of white paint.

A new steam trap was installed in heating pit under hospital.

Superintendent's Residence.

A new steam trap was placed in cellar, and cement and bricks laid outside of entire house to prevent burrowing of rats into cellar.

Nurses' Home.

Four radiators installed.

Garage.

A large pipe radiator was installed, and a new sanitary toilet was constructed, and a clothes chest built for the men.

Grounds.

Manhole No. 1, just east of Ward B, was drained to the extent of 180 ft., creating a fall in drainage to the extent of 6 ft. The entire top was removed and manhole was entirely relined with brick and an iron grating placed on top, so that valves on steam lines can be controlled at all times of year without turning off the steam.

Manhole No. 2, just west of garage, was drained into the storm-water sewer for a distance of about 50 ft.

A six-inch pipe was placed in the water tower.

Seventeen trees were planted, and sixteen of these enclosed within boxes. Lawns, hedgings and flower beds were improved as needed.

The painting, repair of the manholes, relaying of pipe, repair of the water tower, were done by the Inspector of Buildings. The rest of the improvements were paid for from the Hospital Expense Account, and the work done by the Hospital employees.

Requisites for 1917.

During the past four years we have experienced the greatest amount of difficulty with steam lines and water mains. As the present water main seems to be inadequate to supply both Sydenham Hospital and the buildings at Bay View, investigation steps should be taken to insure that at no time this place will be deprived of water, as has occurred several times in the past year. The steam line between here and Bay View seems to be defective, and this should have attention during the warm months of the year, so as to prevent a

possible break during the cold weather, when the hospital is very often overcrowded with patients.

Running water in all four wards of Ward A. At the present time doctors and nurses scrub their hands in wash basins, which technique is not as satisfactory as scrubbing the hands under running water.

Dish and tableware sterilizer for Nurses' Home. As the nurses and doctors here are constantly being exposed to infectious diseases, very often one of the staff becomes a carrier before it is recognized, and thereby may spread infection by way of tableware before being detected. If the dishes and other articles of tableware were sterilized after each meal, this could be avoided.

Supply wagon should be painted.

Utensil sterilizer for Ward A.

Morgue and Chapel—At the present time there is no available place in the hospital for the storage of dead bodies except in the rooms and wards in which death has taken place, and we are greatly handicapped in performing autopsies, as very often has to be done, in a private room, which is not satisfactory for such a purpose. On many occasions, relatives and friends request funeral services to be held here, as the laws of the City and State prevent bodies of persons who have died of infectious diseases to be transported to churches. A morgue could be so constructed that funeral services could be held at the Hospital without exposing those in attendance at the funeral to infection.

I trust that these provisions can be made during the ensuing year.

In conclusion, I wish to thank my assistants, the nurses and employees, for their faithful performance of duty.

J. F. Hogan, M. D.,
Superintendent.

REPORT OF RESIDENT PHYSICIAN

During the year 1916 five tonsillectomies were performed for the relief of bacillus carriers from diphtheria. The results from these operations have been gratifying from a twofold purpose. Primarily these patients had been carriers for a length of time varying between 14 days and 166 days, during which time every known remedy had been used to rid the throat of the organisms, and all of these remedies had failed. After the operation was performed, that is from 11 days to 40 days, these patients were free from the organisms, giving three negative cultures from the nose and three negative cultures from the throat. In the case of patient No. 1409, who remained in the Hospital 166 days, four negative cultures were received consecutively from the throat in 40 days after operation. This patient would have probably remained a carrier indefinitely if the tonsils and adenoids had not been removed. It is a conceded fact among infectious-disease workers that the type of tonsil which harbors the diphtheria organism is usually the hypertrophied tonsil, which contains numerous deep crypts, the base of these crypts being at such a remote place in the tonsil that it is very often impossible for antiseptic treatment or any other form of treatment to affect the contents of these crypts, and, therefore, a place of shelter is afforded the organisms for an indefinite length of time. Another type of tonsil which harbors the organism is the deep adherent, almost hidden tonsil, which is frequently overlooked by the examiner, and which can only be seen when the tongue is well depressed and the anterior pillar pulled forward. This was the case with patient No. 1409. It is well to add here that only one

type of tonsillectomy should be performed for the relief of the bacillus carrier, and that is a clean dissection, so that all particles of tonsillar tissue will be entirely removed from the tonsil focci. Tonsillectomy performed with a tonsillotome or by any method so as to leave ragged pieces of tonsil after the operation is a waste of time. It has been the practice in all these operations to remove all particles of tonsillar tissue, and from the results we have had in this series I think it safe to advise this remedy for the relief of bacillus carriers.

Heretofore it has been our practice to keep cases of scarlet fever with otorrhea for 90 days. Uncomplicated cases of scarlet fever, that is, cases without discharges from the nose or ears, have been discharged from the hospital 35 days from the date of admission. We are now, however, about to discharge uncomplicated cases 30 days from the date of the appearance of the rash. Not one case of mastoiditis developed in the Hospital during the year which required an operation, nor were there any intracranial complications. The only case of mostoiditis that was operated on was patient No. 1655, who was admitted in the fifth or sixth week of scarlet fever after mastoiditis had developed.

The first colored patient was admitted to the Hospital on August 12th, suffering with poliomyelitis. There were admitted to the hospital 23 patients with a diagnosis of poliomyelitis. Of these 23 patients, 18 proved to have poliomyelitis. Of the remaining 5, 1 had rickets, 2 tuberculous meningitis, and 2 congenital syphilis. These cases were treated in Ward B, and very often in the next room other infections were treated, but there were no cross-infections. This speaks well for the cubical system of isolation, and points to the fact that several different diseases can be treated in different rooms and attended by the same staff of nurses and physicians if the proper technique is used.

Return Cases.

This includes all the cases admitted to the hospital which we believe were infected from cases discharged from the hospital. There were five such cases during the year, three of diphtheria and two of scarlet fever, which were as follows:

Patient No. 1589 was admitted to the hospital on March 2nd, 1916, with scarlet fever. His brother, patient No. 1443, had been discharged from the hospital on February 7th, twenty-five days before his brother was admitted with scarlet fever. This is a rather long space of time for scarlet fever infection to develop, and I might add that when patient No. 1589 left the hospital both ear drums were intact, he had no discharge from the nose, nor were there any other signs which would indicate that he would be infectious to others.

Patients Nos. 1629 and 1630 were admitted to the hospital on April 4th. Their brother, patient No. 1594, had been discharged on March 20th, 16 days prior to their admission. Patient No. 1594 suffered with laryngeal diphtheria and gave three negative cultures from the nose and three negative cultures from the throat before being discharged from the hospital.

Patient No. 1706 was admitted to the hospital on July 13th, suffering with diphtheria. His sister, patient No. 1679, was discharged from the hospital on June 29th, 25 days before the admission of patient No. 1706. This also is a rather long period, as there is some possibility of patient No. 1706 having been infected from patient No. 1679, although patient No. 1679 had given three negative cultures from the nose and three negative cultures from the throat before being discharged from the hospital.

Patient No. 1815 was admitted to the hospital on December 7th, suffering with scarlet fever. His brother, patient No. 1781, was discharged from the hospital on December

1st. At the time of the discharge of patient No. 1781 his ears and nose were free from discharges and he had been in the hospital over five weeks.

Cross-Infections.

Patients Nos. 1537 and 1568 developed diphtheria while in the scarlet fever division of the hospital.

Patient No. 1585 was later found to be a diphtheria carrier, although he was cultured on admission and gave negative cultures from both nose and throat.

Infectious Diseases Developing in Patients After Their Admission to the Hospital Other Than the Disease for Which They Were Admitted.

Under this heading there were several cases of measles which developed in the scarlet fever division of the hospital. I might add, however, that there were no cases of measles in the diphtheria division, although the diphtheria division is situated directly across the hall from the scarlet fever division. A case of measles which developed during the year 1916 was the remains of the measles infection which occurred during the latter part of the year 1915, which outbreak was due to the fact that a child, patient No. 1467, was admitted to the hospital suffering with scarlet fever, and thirteen days after admission developed measles, and from that time on there was a chain of infection from measles, which you will note as follows:

Patient No. 1490 developed measles on January 3rd, 1916. This patient was admitted during the year 1915, but note is made of the case in this report because measles developed after the 1st of January, 1916.

Patient No. 1492 developed measles on January 14th. This patient was also admitted during the year 1915. He was in the same ward and his crib was close to that of patient No. 1490 when she developed measles.

Patients Nos. 1493 and 1494 developed measles on January 2nd and 6th, respectively. These patients were brothers and were in one of the scarlet fever wards in the latter part of the year 1915 when a case of measles developed there. Although they were taken from the ward when this case was in the pre-eruptive stage, No. 1493 developed measles 12 days later; his brother, No. 1494, developing measles 16 days after exposure to the first case.

Patient No. 1496, who was also admitted in the year 1915, developed measles on January 17th. She had been in the same ward with patients Nos. 1490 and 1492.

Patient No. 1515, admitted with scarlet fever on January 4th, developed measles on February 1st. She had been in the same ward where previous cases of measles had developed in patients who were admitted before the beginning of the year 1916.

Patient No. 1550 developed measles on February 17th. She had been in the same ward with patient No. 1515.

Patient No. 1536 developed measles on March 1st. She had been in the same ward with patients Nos. 1515 and 1550.

Patient No. 1538 developed measles on March 13th. He had been in the same ward with patient No. 1550.

Patient No. 1549 developed measles on March 26th. He had also been in the same ward.

Patient No. 1572 developed measles on April 8th. This patient was in the sacrlet fever division of the hospital, but not in the same ward with patients Nos. 1515, 1550 and 1549. We were unable to trace the direct source of infection of this patient.

In concluding this medical report I wish to express my sincere gratitude to Dr. H. C. Davis, consulting otologist, and Dr. Arthur M. Shipley, our consulting surgeon, both of whom cheerfully and promptly answered our calls at all times. I also wish to express my gratitude to Dr. H. H. Johnson, the assistant physician, and to the nursing staff for their labors during the year, and especially at the time of the epidemic of poliomyelitis.

J. F. Hogan, M. D.,
Resident Physician.

NUMBER OF DAYS' MAINTENANCE OF ALL PERSONS, BY MONTHS.

Months.	*Patients.*	*Employees.*	*Total.*
January	1,283	738½	2,021½
February	1,262	692½	1,954½
March	1,184	674	1,858
April	1,526	704	2,230
May	945	672	1,617
June	711	719	1,430
July	762	706	1,468
August	461	718	1,179
September	739	713	1,452
October	1,188	701	1,889
November	1,052	766	1,818
December	1,053	733	1,786
Total	12,166	8,537	20,703
Daily average	33.24	23.32	56.56

GENERAL STATISTICS.

Patients in hosptial at beginning of year	34
Patients in hospital at end of year	31
Maximum number of patients in hospital at one time	59
Minimum number of patients in hospital at one time	10
Daily average number of patients	33.24
Average number of days' stay of patients:	
Scarlet fever	35.41
Diphtheria (not including those admitted as carriers)	30.79
Scarlet Fever and Diphtheria (patient suffering with both diseases on admission)	52.81
Suspects	17.50
Diphtheria Carriers	64.14
Poliomyelitis	34.92
Total number of days' maintenance given patients	12,166
Average daily cost per patient	$2.372
Average daily cost per patient, minus improvements to hospital which are permanent	$2.268
Total number of days' board given patients and employees	20,703
Total number of deaths	35
Total number of deaths from scarlet fever	8
Total number of deaths from diphtheria	21
Total number of deaths from diphtheria (within 24 hours)	5
Total number of deaths from diphtheria (within 48 hours)	9
Total number of admissions	323
Death rate from scarlet fever (per cent.)	4 31/50
Death rate from diphtheria (per cent.)	25 3/10
Death rate from diphtheria, deducting deaths within 24 hrs.	19 7/25
Death rate from diphtheria, deducting deaths within 48 hrs.	20 40/83
Cost of subsistence, per person per day	$0.455

SCARLET FEVER	Remaining January 1, 1916			Admitted					Discharged									Jan. 1, 1917 Remaining				
				White		Colored		Total	Recovered		Improved		Not Improved		Died		Total	White		Colored		Total
	Male	Fem	Total	Male	Fem	Male	Fem		White	Col.	White	Col.	White	Col.	White	Col.		Male	Fem	Male	Fem	
Scarlet Fever (Uncomplicated)	3	6	9	50	60			110	112						3		115	2	2			4
Scarlet Fever, Double Otitis Media		1	1	3	4			7	8								8					
Scarlet Fever, Double Otitis Media, Acute Nephritis, Cervical Adenitis				1				1							1		1					
Scarlet Fever, Double Otitis Media, Acute Nephritis, Arthritis (elbow and knee joints), Subconjunctional Hemorrhage				1				1							1		1					
Scarlet Fever, Double Otitis Media, Acute Nephritis, Measles		1	1						1								1					
Scarlet Fever, Double Otitis Media, Pyelo Nephritis, Colitis					1			1							1		1					
Scarlet Fever, Double Otitis Media, Cervical Adenitis	1		1	1				1	2								2					
Scarlet Fever, Double Otitis Media, Myocarditis				1				1	1								1					
Scarlet Fever, Double Otitis Media, Endocarditis, Mastoid Periostitis					1			1											1			1
Scarlet Fever, Double Otitis Media, Colitis					1			1	1								1					
Scarlet Fever, Double Otitis Media, Laryngitis, Furuncle of Scalp				1				1							1		1					
Scarlet Fever, Double Otitis Media, Chronic Otorrhea, Measles					1			1	1								1					
Scarlet Fever, Double Otitis Media, Measles	2		2	3	1			4	6		1						6					
Scarlet Fever, Right Otitis Media		1	1	2	2			4	5								5					
Scarlet Fever, Left Otitis Media				1	5			6	5								5		1			1
Scarlet Fever, Left Otitis Media, Myocarditis				1				1	1								1					
Scarlet Fever, Catarrhal Otitis Media (not suppurative)					1			1	1								1					
Scarlet Fever, Acute Nephritis				1	1			2	1						1		2					
Scarlet Fever, Chronic Nephritis, Arthritis					1			1	1								1					
Scarlet Fever, Chronic Urethritis (Gonorrhea)				1				1	1								1					
Scarlet Fever, Cervical Adenitis					2			2	2								2					
Scarlet Fever, Furunculosis					1			1											1			1
Scarlet Fever, Arthritis (shoulder and knee joints)				1				1	1								1					
Scarlet Fever, Rhinitis				1	1			2	2								2					
Scarlet Fever, Endocarditis					1			1	1								1					
Scarlet Fever, Mitral Insufficiency					1			1	1								1					
Scarlet Fever, Chickenpox, Tertiary Syphilis		1	1						1								1					
Scarlet Fever, Measles	3	1	4	1				1	5								5					
Scarlet Fever, Infected Left Leg				1				1	1								1					
Scarlet Fever, Infected Wound (right thigh)				1				1	1								1					
Scarlet Fever, Infected Fingers (2)					1			1	1								1					
Scarlet Fever, Infected Left Index Finger					1			1	1								1					
Scarlatinal Mastoiditis (left) (Admitted in fifth week of disease)					1			1	1								1					
	9	11	20	72	88			160	165						8		173	2	5			7

POLIOMYELITIS	Remaining			White		Colored		Total	Recovered		Improved		Not Improved		Died		Total	White		Colored		Total
									White	Col.	White	Col.	White	Col.	White	Col.		Male	Fem	Male	Fem	
Poliomyelitis				4	3	2	4	7	6	2		4	1	1	1		7	3			1	2		3
Poliomyelitis and Laryngeal Diphtheria (infected prior to admission)				1				1	1	1							1							
Poliomyelitis, Whooping Cough				1			1	1	1	1	1						1	1						
Poliomyelitis, Whooping Cough, Conjunctivitis					1			1				1					1							
Poliomyelitis, Bronchio Pneumonia				1				1							1		1							
				7	4	2	5	11	7	4	1	5	1	1	1	1	11	4			1	2		3

SUSPECTS — Admitting Diagnosis	Discharge Diagnosis	Remaining			White		Colored		Total	Recovered		Improved		Not Improved		Died		Total	White		Colored		Total
										White	Col.	White	Col.	White	Col.	White	Col.							
Scarlet Fever Suspects	Measles		1	1					1									1						
Scarlet Fever Suspects	La Grippe				1			1	1									1						
Scarlet Fever Suspects	Septic Tonsilitis					1		1	1									1						
Scarlet Fever Suspects	Tonsilitis				1			1	1									1						
Scarlet Fever Suspects	Pharyngitis				1			1	1									1						
Scarlet Fever	Follicular Tonsilitis					1		1	1									1						
Laryngeal Diphtheria Suspects	Catarrhal Croup				1			1	1									1						
Laryngeal Diphtheria Suspects	Measles				1			1	1									1						
Pharyngeal Diphtheria	Follicular Tonsilitis					3		3	3									3						
Pharyngeal Diphtheria Suspects	Follicular Tonsilitis				2	2		4	4									4						
Pharyngeal Diphtheria Suspects	Pharyngitis					1		1	1									1						
Poliomyelitis Suspects	Rachitis						1				1								1					
Poliomyelitis Suspects	Tuberculous Meningitis					1		1	1							1	1		1					
Poliomyelitis Suspects	Congenital Syphilis					1	1	1	1												1	1	1	1
Exposed to Poliomyelitis	No Disease					2		2		2								2						
Measles	Measles					2		2		2								2						
Typhoid Fever	Typhoid Fever				1			1				1						1						
			1	1	8	14	1	2	22	3	20		1	1			1	1	22	2		1	1	1	1

DIPHTHERIA	Remaining			White		Colored		Total	Recovered		Improved		Not Improved		Died		Total	White		Colored		Total
									White	Col.	White	Col.	White	Col.	White	Col.		Male	Fem	Male	Fem	
Diphtheria, Laryngeal	1		1	13	7			20	12						6		18	1	2			3
Diphtheria, Laryngeal, Pharyngeal and Nasal				1	2			3							2		2	1				1
Diphtheria, Laryngeal, Pharyngeal	1		1						1								1					
Diphtheria, Laryngeal, Pharyngeal, Colitis				1				1	1								1					
Diphtheria, Laryngeal, Nasal					1			1	1								1					
Diphtheria, Laryngeal, Bronchio Pneumonia	1		1	5	1			6	2						5		7					
Diphtheria, Laryngeal, Bronchio Pneumonia, Septic Bronchitis					1			1							1		1					
Diphtheria, Laryngeal, Right Otitis Media					1			1	1								1					
Diphtheria, Laryngeal, Cardiac Paralysis					1			1							1		1					
Diphtheria, Laryngeal, Intestinal Intoxication					1			1	1								1					
Diphtheria, Pharyngeal	4		4	15	25			40	34						1		35	2	7			9
Diphtheria, Pharyngeal, Nasal					1			1							1		1					
Diphtheria, Pharyngeal, Nasal, Bronchio Pneumonia				1				1							1		1					
Diphtheria, Pharyngeal, Nasal, Colitis					1			1							1		1					
Diphtheria, Pharyngeal, Nasal, Conjunctivitis					1			1							1		1					
Diphtheria, Pharyngeal, Nasal, Congenital Spastic Paralysis of Lower Limbs				1				1	1								1					
Diphtheria, Laryngeal, Chronic Otitis Media				1				1										1				1
Diphtheria, Laryngeal, Acute Nephritis					1			1							1		1					
Diphtheria, Pharyngeal, Phrenogastric Paralysis				1				1	1								1					
Diphtheria, Laryngeal, Partial Postdiphtheritic Paralysis of Lower Limbs					1			1	1								1					
Diphtheria, Nasal				4				4	4								4					
Diphtheria, Nasal, Chorea					1			1	1								1					
Diphtheria, Nasal, Rhinitis, Burns of Face, Chest and Right Arm (prior to admission)					1			1	1								1					
	7		7	43	47			90	62						21		83	5	9			14
Diphtheria Carriers	1	3	4	6	5			11	13								13		2			2
Diphtheria Carriers, Pneumonia, Pneumococcus, Meningitis				1				1							1		1					
	1	3	4	7	5			12	13						1		14		2			2

SCARLET FEVER AND DIPHTHERIA (ON ADMISSION)	Remaining			White		Colored		Total	Recovered		Improved		Not Improved		Died		Total	White		Colored		Total
									White	Col.	White	Col.	White	Col.	White	Col.		Male	Fem	Male	Fem	
Scarlet Fever and Laryngeal Diphtheria, Acute Nephritis, Bronchio Pneumonia					1			1							1		1					
Scarlet Fever and Pharyngeal Diphtheria				3	2			5	5								5					
Scarlet Fever and Pharyngeal Diphtheria, Double Otitis Media	1		1						1								1					
Scarlet Fever and Pharyngeal Diphtheria, Right Otitis Media					1			1	1								1					
Scarlet Fever and Pharyngeal Diphtheria, Left Otitis Media				1				1	1								1					
Scarlet Fever and Laryngeal Diphtheria, Myocarditis	1		1						1								1					
Scarlet Fever and Diphtheria Carrier				1	1			2	1								1		1			1
	2		2	5				10	10						1		11		1			1

Admitted in Nasal Labels	Remaining			White		Colored		Total	Recovered		Improved		Not Improved		Died		Total	White		Colored		Total
									White	Col.	White	Col.	White	Col.	White	Col.		Male	Fem	Male	Fem	
					6		2	6	2		1						1		1		1	1

Report of the Bureau of Food and Dairy Inspection

BALTIMORE, January 1, 1917.

DR. JOHN D. BLAKE,

Commissioner of Health.

DEAR SIR:

I have the honor to submit herewith a report of the work accomplished in the Bureau of Food and Dairy Inspection for the year ending December 31, 1916:

ORGANIZATION.

The Bureau of Food and Dairy Inspection for the year 1916 consisted of the following members of the Department of Health:

(1) The chief of the bureau, who is the chemist of the Department of Health.

(2) Three assistant chemists and two chemical laboratory assistants.

(3) One clerk and one stenographer.

(4) One chief inspector who has under his direction the following:

(*a*) One supervising inspector of pasteurizing dairies;

(*b*) Fourteen food inspectors;

(*c*) Six dairy farm inspectors;

(*d*) One local cow stable inspector.

(5) Two assistant bacteriologists, two bacteriological assistants and one laboratory helper, the technique of whose work in the laboratory is under the supervision of the bacteriologist of the Department of Health.

Eight of the food inspectors devote their entire time to milk inspection; three, to inspection of food other than milk in stores, markets, on wharves and at railroad stations. One inspector is engaged in the collection of samples of water, milk and other foodstuffs for bacteriological examination. One inspector devotes his entire time to the inspection of bakeries, and one devotes his entire time to the inspection of abattoirs.

It was suggested by the chief of the bureau and also by his predecessor that there was need of a larger amount of work in dairy farm inspection, and this larger amount of work could be done without addition to the present force and without additional cost to the city, if automobiles were furnished the dairy farm inspectors to be used in their work. The cost of the automobiles and the cost of their operation could be paid out of the money now expended by these inspectors for railroad fare and livery hire. In the Ordinance of Estimates for 1917 provision is made for the purchase of four automobiles and the dairy farm inspection force is decreased from six to four. I wish to respectfully urge that this decrease is a mistake, and will be a handicap in the improvement of the city's milk.

Milk.

The amount of milk received at the various railroad stations during the year was 9,305,778 gallons. The amount entering the city by automobile truck delivery was 1,649,225 gallons. Approximately, 5,000 gallons per day, or 1,825,000 gallons per year, enter the city from local territory on wagons and in automobiles. The total amount of milk entering the city is thus 12,780,003 gallons. This makes a daily consumption of 35,000 gallons per day. The total amount entering the city during the preceding year (1915) was 12,467,677 gallons, or 34,000 gallons per day. There is thus

an increase for the year 1916 of 313,306 gallons per year, or 1,000 gallons per day.

Table No. 1 shows the total numbers of gallons of milk entering the city during the past five years; that is, from 1912 to 1916, inclusive.

TABLE NO. 1.

TOTAL AMOUNT OF MILK ENTERING BALTIMORE.

	1912.	1913.	1914.	1915.	1916.
By railroad. . .	8,862,868	9,345,860	9,723,718	9,525,707	9,305,778
By automobile truck (approximate). .	.....	.....	.....	751,990	1,649,225
By wagon (approx.) . .	2,190,000	2,190,000	1,825,000	2,190,000	1,825,000
	11,052,868	11,535,860	11,548,718	12,467,697	12,780,003

In Table No. 2 are shown the amounts of milk received monthly at the various railroad stations during 1915 and 1916. Acknowledgment is made of the courtesy and co-operation of the various railroad and automobile-truck companies in furnishing this data. Of the total amount of milk received at the railroad depots, 5.4 per cent. was inspected. This is an increase of 1 per cent. in the amount of milk inspected at the railroad stations as compared with 1915. This increase is due to the fact that a successful attempt was made to stop the entrance into the city of milk containing added water. It was found that several hundred milk producers regularly added small amounts of water to their milk. In many cases the adulterated milk contained more butterfat than the 3.5 per cent. required by law. Watered

milk, however, can easily be determined by means of the refractometer, no matter what the percentage of butterfat present. By submitting all suspicious samples to the refractometer test the presence or absence of water was determined. As soon as it was found that a producer was shipping watered milk he was notified to discontinue his shipments until such time as he could give this Department satisfactory assurances that future shipments of milk would not contain added water. 190 different producers were notified that their milk was excluded from the city because of the presence of added water in that which they had shipped. Most of these gave satisfactory assurance immediately that they would see that no more water was added. Many of them frankly admitted that they had been adding water, and in some cases stated they had shipped milk to Baltimore for as long a period as twenty years and had never failed to add water to any milk they shipped. An attempt was made to show these producers that, aside from the fraud of selling water for milk, the addition of water which was in any way polluted might be the means of spreading a milk-borne epidemic of disease in the city.

Inspectors were instructed to continue their condemnation of all milk which was obviously watered and below the legal standard. As a result, 11,414 gallons of milk were condemned at the railroad stations during the year, as against 2,964 gallons condemned during 1915. A glance at the monthly amounts of milk condemned, as shown in Table No. 3, will show that there is a gradual decrease in the amount of milk condemned from February until December. This is because the farmers know that the penalty of sending water milk into the city is no longer simply condemnation, but also exclusion. They, therefore, have largely discontinued shipment of adulterated milk.

TABLE NO. 2.

SHOWING THE AMOUNT OF MILK IN GALLONS RECEIVED EACH MONTH AT THE VARIOUS RAILROAD STATIONS DURING 1915 AND 1916.

	B. & O. R. R., Camden, Gay St. and Mt. Royal Stations.		Md. & Pa. R. R., Oak St. Station.		W. M. R. R., Hillen Station.		W. M. R. R., Fulton Station.
	1915.	1916.	1915.	1916.	1915.	1916.	1915.
January.	94,335	72,753	224,581	194,105	130,501	170,370	184,185
February.	87,801	65,440	203,339	184,843	117,825	162,882	161,590
March.	101,275	71,104	230,182	206,141	134,057	170,991	165,039
April.	106,321	73,704	239,254	208,688	136,466	168,778	152,745
May.	120,547	95,543	261,612	238,162	149,624	200,780	145,241
June.	105,733	87,890	239,470	224,522	148,318	182,757	166,886
July.	101,021	108,554	233,199	212,887	149,992	177,775	149,566
August.	98,713	110,036	213,533	207,226	150,218	190,050	164,308
September. . . .	79,833	95,996	198,676	194,246	139,810	160,450	147,743
October.	78,371	76,662	193,929	181,431	173,605	157,862	140,918
November. . . .	65,957	64,570	185,349	168,808	153,865	147,731	135,943
December.	65,031	69,896	189,866	188,005	155,579	154,006	137,576
Total.	1,104,938	992,148	2,612,992	2,409,064	1,739,860	2,044,432	1,851,740

TABLE NO. 2 (Continued).

SHOWING THE AMOUNT OF MILK IN GALLONS RECEIVED EACH MONTH AT THE VARIOUS RAILROAD STATIONS DURING 1915 AND 1916.

	W. M. R. R., Fulton Station.	N. C. R. R., Calvert Station.		N. C. R. R., President St. Station.		Monthly Totals for all Railroads.	
	1916.	1915.	1916.	1915.	1916.	1915.	1916.
January.....	134,065	171,534	157,414	11,855	11,455	816,991	740,162
February.....	148,292	151,373	150,329	11,300	10,710	733,228	722,496
March.....	161,891	169,198	163,866	12,870	11,855	812,621	786,848
April.....	149,642	177,127	160,393	12,825	12,250	824,738	773,455
May.....	161,496	192,173	202,349	14,340	13,830	883,537	912,160
June.....	149,282	188,518	177,641	14,070	12,795	862,995	834,887
July.....	136,342	186,864	224,662	15,275	12,070	835,737	872,290
August.....	149,075	174,024	139,448	13,160	11,145	813,958	806,980
September....	131,508	169,923	156,299	10,490	9,840	746,475	748,339
October.....	136,210	169,374	172,928	10,910	.....	767,107	725,093
November....	118,101	163,348	167,335	10,285	.....	714,747	666,545
December.....	138,072	154,676	167,544	10,665	.....	713,393	717,523
Total.....	1,713,976	2,068,132	2,040,208	148,045	105,950	9,525,707	9,305,778

TABLE NO. 3.

SHOWING AMOUNT OF WORK DONE BY MILK INSPECTORS, BY MONTHS, DURING 1916

Months.	Amount of Milk Received at Depots. (Gals.)	Amount of Milk Examined. (Gals.)	Amount of Milk Condemned. (Gals.)	Dairy and Milk Shop Inspections.			Wagon Inspections.	Railroad Depots Visited.
				Dairies.	Lunch Room.	Milk Shops.		
January.....	740,162	46,025	736	489	5	866	332	111
February.....	722,496	49,005	2,102	502	25	732	264	95
March.....	785,848	53,200	2,541	528	15	536	239	121
April.....	773,455	44,050	905	416	5	586	286	109
May.....	912,160	46,785	839	542	15	505	310	114
June.....	834,887	47,695	1,070	598	22	584	365	113
July.....	872,290	35,372	850	421	13	572	284	87
August.....	806,980	30,054	932	386	4	294	232	76
September....	748,339	36,075	737	472	10	430	186	97
October.....	725,093	41,075	387	553	17	626	202	106
November....	666,545	41,375	129	469	14	741	159	104
December.....	717,523	38,725	186	466	14	664	143	92
Total.....	9,305,778	509,436	11,414	5,842	159	7,136	3,002	1,225

Tables Nos. 4 to 8 give the average percentage of butterfat and total number of samples above and below the legal standard for station, wagon, store and lunch room samples. These tables show a most decided improvement in the percentage of butterfat when compared with the same type of tables published in 1915. Table No. 4 shows that only 4.5 per cent. of the samples collected at the railroad stations were below the standard of 3.5 per cent. for butterfat. A similar decrease is noted in the wagon, store and lunch-room samples. The average butterfat content of 10,983 samples collected during the year from milk as it arrived at the railroad stations was 4.36 per cent. This is a remarkably high average and shows that the chemical quality of the milk supply of Baltimore is excellent.

TABLE NO. 4.

PER CENT. OF SAMPLES BELOW STANDARD OF 3.5 PER CENT.

Year.	Station.	Wagon.	Store.	Lunch Room.
1914.	11.3	22.9	34.4	25.0
1915.	9.0	12.1	36.0	31.0
1916.	4.5	10.4	20.1	9.5

TABLE NO. 5.

RECORD OF STATION SAMPLES, 1916.

Months.	Per Cent. Fat.	Number Above Legal Standard.	Number Below Legal Standard.	Total Number of Samples.
January.	3.80	691	52	743
February.	4.08	1,208	121	1,329
March.	4.52	1,159	79	1,238
April.	4.43	725	65	790
May.	4.60	977	12	999
June.	4.23	1,018	24	1,042
July.	4.26	682	55	737
August.	4.31	601	46	647
September. . . .	4.30	828	10	838
October.	4.61	804	19	813
November. . . .	4.63	961	2	963
December.	4.52	837	7	844
Ave. & Total..	4.36	10,491	492	10,983

TABLE NO. 6.

RECORD OF WAGON SAMPLES, 1916.

Months.	Per Cent. Fat.	Number Above Legal Standard.	Number Below Legal Standard.	Total Number of Samples.
January.	3.91	130	19	149
February.	3.90	153	38	191
March.	4.64	99	22	121
April.	3.72	113	63	176
May.	3.46	158	25	183
June.	4.03	255	11	266
July.	3.91	202	27	229
August	4.10	221	13	234
September. . . .	4.22	230	10	240
October.	4.00	188	4	192
November. . . .	4.24	173	3	176
December.	4.21	123	3	126
Ave. & Total..	4.02	2,045	238	2,283

TABLE NO. 7.

RECORD OF LUNCH ROOM SAMPLES, 1916.

Months.	Per Cent. Fat.	Number Above Legal Standard.	Number Below Legal Standard.	Total Number of Samples.
January.	3.70	7	2	9
February.	3.80	7	1	8
March.	....	....	....	....
April.	....	....	....	....
May.	....	....	....	....
June.	....	....	....	....
July.	3.88	4	1	5
August.	3.90	3	....	3
September. . . .	4.31	17	....	17
October.	....	....	....	....
November. . . .	....	....	....	....
December.	....	....	....	....
Ave. & Total..	4.00	38	4	42

TABLE NO. 8.

RECORD OF STORE SAMPLES, 1916.

Months.	Per Cent. Fat.	Number Above Legal Standard.	Number Below Legal Standard.	Total Number of Samples.
January.	3.79	193	52	245
February. . .	3.73	185	71	256
March.	3.77	190	58	248
April.	4.63	108	27	135
May.	3.98	85	27	112
June.	3.88	97	23	120
July.	3.60	51	21	72
August.	3.71	64	17	81
September. . . .	4.00	113	17	130
October.	4.09	166	17	183
November. . . .	4.28	58	4	62
December.	4.04	12	....	12
Ave. & Total..	3.90	1,322	344	1,656

During the year 58 milk permits were temporarily revoked because of the presence of an infectious or contagious disease on a premise where milk was sold. Table No. 9 gives the number of quarantines, by months, for each disease.

TABLE NO. 9.

SHOWING NUMBER OF PLACES QUARANTINED ON ACCOUNT OF COMMUNICABLE DISEASES BY MONTHS, DURING 1916.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Typhoid fever	1	1	1	1	:	1	1	1	2	:	:	:	9
Scarlet fever	:	:	:	2	:	1	1	:	:	:	:	:	4
Diphtheria	1	2	:	1	2	:	:	:	:	2	:	2	10
Measles	2	2	17	4	7	:	:	:	:	:	:	1	35
Total	6	5	18	8	9	2	2	1	2	2	:	3	58

Whenever an infectious disease was reported to the Department, the distributing dairy supplying the patient milk was notified that it must not remove any milk receptacles from the infected home until such time as the case had recovered. The receptacles were properly sterilized before being used again. Table No. 10 shows that 1,224 of such notices were sent out during the year.

TABLE NO. 10.

SHOWING CASES OF COMMUNICABLE DISEASES REPORTED ON DAIRYMEN'S ROUTES, BY MONTHS, DURING 1916.

Months.	Diphtheria.	Scarlet Fever.	Typhoid Fever.	Total.
January.	79	82	16	177
February.	34	57	5	96
March.	27	62	11	110
April.	18	54	13	85
May.	11	46	13	70
June.	9	28	22	59
July.	21	16	28	65
August.	23	8	88	119
September. . . .	21	16	130	167
October.	34	5	65	104
November. . . .	34	21	37	92
December. . . .	35	25	20	80
Total.	346	420	448	1,224

During the year, 48 permits for the sale of milk and cream have been temporarily revoked for various reasons.

Your attention was called in my last annual report to the necessity for a milk ordinance which would require the pasteurization of practically all milk and which would prohibit the distribution of milk in bulk by the method of "dipping" in stores and by the use of churns on wagons. The necessity for such an ordinance still exists.

In October his Honor the Mayor appointed a committee, of which Dr. William H. Welch is chairman, to study the milk situation in Baltimore and make recommendations for legislation to improve and render safe the city's milk supply. This committee has submitted to the Mayor a report in the form of a proposed ordinance. This ordinance, if passed, will mean a tremendous step forward in the protection of the health of the city.

Pasteurizing Dairies.

About five years ago the number of dairies pasteurizing the milk they distributed increased to such an extent as to make the supervision of pasteurizing dairies an important part of the work of the Health Department in milk control. In January, 1914, a Supervising Inspector of Pasteurizing Dairies was appointed. This inspector has devoted his entire time during the past three years studying and improving the dairies assigned to him.

Table No. 11 shows the gradual increase from 1912 to 1916 of pasteurizing dairies. At the present time 22,699 gallons of milk are pasteurized daily. This is 65 per cent. of the total daily milk consumption. In our annual report for 1915 the two systems of pasteurization employed in Baltimore, viz, flash system and holding system, are described, and the advantages of the holding system are pointed out. Nineteen dairies at the present time use the flash process and 18 the holding process.

TABLE NO. 11.

PASTEURIZING DAIRIES.

1912.	1913.	1914.	1915.	1916.
Number of Dairies..... 6	*Number of Dairies*..... 19 Surveys made..... 18	*Number of Dairies*..... 28	*Number of Dairies*..... 33	*Number of Dairies*..... 43 Pasteurizing..... 37 Selling pasteurized milk..... 6
	Daily Output (gallons): Milk— Bottle.....10,044 Bulk..... 2,256 Cream..... 380	*Daily Output* (gallons): Milk— Bottle.....14,692 Bulk..... 2,274 Cream..... 623	*Daily Output* (gallons): Milk— Bottle.....14,991 Bulk..... 3,924 Cream..... 729	*Daily Output* (gallons): Milk— Bottle.....17,289 Bulk..... 5,410 Cream..... 863 Buttermilk..... 205
	Number Using Flash Process..... 9	*Number Using Flash Process*..... 18	*Number Using Flash Process*..... 21	*Number Using Flash Process*..... 19
	Number Using Holding Process..... 9	*Number Using Holding Process*..... 10	*Number Using Holding Process*..... 12	*Number Using Holding Process*..... 18
			Daily Milk Consumption (raw & pasteurized): 34,000 gallons. 21 Flash Processes pasteurize 5,260 gallons, or 16% of daily milk consumption. 12 Holding Processes pasteurize 13,655 gallons, or 40% of daily milk consumption. Amount of daily milk consumption pasteurized, 18,915 gallons, or 56%	*Daily Milk Consumption* (raw & pasteurized): 35,000 gallons. Flash Processes pasteurize 6,690 gallons, or 19% of daily milk consumption. Holding Processes pasteurize 16,009 gallons, or 46% of daily milk consumption. Amount of daily milk consumption pasteurized, 22,699 gallons, or 65%

Of the pasteurized milk, 17,289 gallons, or 76 per cent., is bottled. The amount of milk sold in bottles is increasing every year.

Table No. 12 gives a survey of all the pasteurizing dairies, showing their scores, outputs, number of employees, number of customers, equipment and other pertinent information. This table shows that in equipment and methods the pasteurizing dairies are in practically the same condition as they were a year ago. Further progress cannot be made with these dairies until we have laws governing them. A pasteurizing dairy should not be constructed or altered without submission of its plans to the Health Department for approval. Every such plant should have facilities for proper sterilization of bottles as well as other utensils. The use of bottles which have been rinsed but not sterilized is a real danger. Milk bottles should not be capped in such a manner as to permit the handling of caps by the hand or the contact of the milk with the hand.

DAILY OUTPUT OF DAIRY — GALLONS

RAW MILK SUPPLY

Number of Customers	Average Length of Time Between Pasteurization of Milk and Delivery to Consumer	Clarifier and Make	Pasteurizer and Make	Holder and Make	Cooler and Make	Bottle Filler and Make	Capper	Sterilizer for Bottles and Make	No. of Dairy Farms Supplying Milk	Inspection a Part of Duties	Premium to Dealer for Quality of Milk	Chemical Analysis (Fat Only)	Bacteriological Analysis
5,000	18	De Laval	Reid [illegible] and record the[illegible]	Kuehne continuous	[illegible] Kuestner [illegible]	Milwaukee	Machine	Rice & Adams	[illegible]	Yes	Yes	Yes	Yes
[illegible]	18	De Laval	Reid [illegible] and record the[illegible]	Reid continuous	Reid open	Milwaukee	Machine	Rice & Adams	[illegible]	No	Yes	Yes	No
800	14	None Employed	Reid hand control	None employed	Reid open	Quaker City	Hand	None employed	11	Yes	Yes	No	No
1,200	18	None Employed	Reid hand control	None employed	Reid open	Dairymen's Supply	Hand	Kuestner	[illegible]	No	No	No	No
150	18	None Employed	Reid hand control	None employed	Reid open	Rice & Adams	Hand	None employed	[illegible]	No.	No	No	No.
850	18	None Employed	Reid hand control	Reid continuous	Reid open	[illegible]	Hand	Quaker City	[illegible]	No	No	No	No
1,000	4	None Employed	Reid hand control	None employed	Kuestner open	Kuestner	Hand	None employed	1	No	No	No	No.
160	18	None Employed	Pasteurizer	[illegible]	[illegible]	Hand Filler	Hand	None employed	[illegible]	No	No	No	No
[illegible]	18	De Laval	Reid automatic control and record the[illegible]	Wirth positive	[illegible]	Milwaukee	Machine	Rice & Adams	[illegible]	Yes	Yes	Yes	Yes
1,200	19	None Employed	Reid (Batch) [illegible]	[illegible]	Reid open	Reid	Hand	None employed	[illegible]	No	No	Yes	No
100	18	None Employed	Reid hand control	None employed	Reid open	Rice & Adams	Hand	None employed	[illegible]	No	No	No	No
350	14	None Employed	Pasteurizer	[illegible]	Cold water surrounding can	Hand Filler	Hand	None employed	[illegible]	No	No.	No	No
1,000	18	None Employed	[illegible] control and record the[illegible]	[illegible] positive Schaer's design	Schaer [illegible] Kuestner [illegible]	S. S. Wenzel	Machine	Schaer	[illegible]	Yes	Yes	Yes	Yes
400	16	None Employed	Reid hand control	None employed	Reid open	Kuestner	Hand	None employed	[illegible]	No.	No	No	No
750	12	De Laval	Reid hand control	None employed	Reid open	Franklin	Hand	Kuestner	16	No	No.	No.	No
220	18	None Employed	Reid hand control	None employed	Reid open	Wright	Hand	None employed	1	No	No	No	No
100	20	None Employed	Creamery Package (Batch) hand control	Sanitary Past.	Creamery Package open	None employed	None	None employed	[illegible]	No	No	No.	No
11,000	16	De Laval	Wirth [illegible] control and record the[illegible]	Wirth positive	[illegible] open	Milwaukee	Machine	Rice & Adams	[illegible]	Yes	Yes	Yes.	Yes
600	5	None Employed	Reid hand control	Reid continuous	Kuestner open	Rice & Adams	Hand	Kuestner	[illegible]	No	No	No	No
700	18	None Employed	Reid hand control	Kuestner positive	Reid open	Franklin	Hand	Kuestner	[illegible]	No	No	Yes	No
327	16	None Employed	Reid hand control	None employed	Reid open	Rice & Adams	Hand	None employed	[illegible]	No	No	No	No
250	18	None Employed	Creamery Package (Batch) hand control	Sanitary Past.	Creamery Package open	Creamery Package	Hand	None employed	16	No	No	No.	[illegible]
350	18	None Employed	Reid hand control	None employed	Reid open	Franklin	Hand	None employed	[illegible]	No	No	No.	No.
850	14	None Employed	Reid automatic control and record the[illegible]	None employed	Reid [illegible]	Davis	Hand	Quaker City	16	No	No	No	No
750	16	Past. at Dairy 225							[illegible]	[illegible]	No	No	[illegible]
[illegible]	5	Past. at Dairy 220								No	No	No	[illegible]
1,000	18	None Employed	Reid, hand control.	None employed	York open	Milwaukee	Machine	[illegible]	[illegible]	[illegible]	No	Yes	[illegible]
2,250	18	None Employed	Consolidated hand control	None employed	Reid open	Milwaukee	Machine	Quaker City	[illegible]	Yes	No	No	No
600	22	None Employed	Consolidated hand control	None employed	Reid open	Franklin	Hand	Quaker City	[illegible]	Yes	No	Yes	No
150	15	None Employed	Pasteurizer	Can positive	Cold water surrounding can	Hand Filler	Hand	None employed	[illegible]	No	No	No	No
400	18	None Employed	Reid hand control	Reid continuous	Kuestner open	Quaker City	Hand	Kuestner	16	No	No	No	No
400	14	De Laval	Reid hand control	Reid continuous	Reid open	Kuestner	Hand	Kuestner	1	No	No	No	No
400	18	None Employed	Creamery Package (Batch) hand control	Sanitary Past.	Creamery Package open	Creamery Package	Hand	Creamery Package	11	No	No	No	No
900	18	None Employed	Reid hand control	None employed	Reid open	Franklin	Hand	None employed	[illegible]	[illegible]	No.	No.	No
500	18	None Employed	Cherry Bros. (Batch) hand control	Sanitary Past.	[illegible]	Wright	Hand	Kuestner	1	[illegible]	[illegible]	No	No
300	10	None Employed	Cherry Bros. hand control	Sanitary Past.	[illegible] open	Wright	Hand	None employed	[illegible]	[illegible]	No	No.	No
100	[illegible]	Past. at Dairy 231					Hand		[illegible]	No	No	No	No
150	[illegible]	Past. at Dairy 220					Hand		[illegible]	No	No	No	No
100	[illegible]	Past. at Dairy 231					Hand			No	No	No	No
210	15	None Employed	Pasteurizer	Can positive	Cold water surrounding can	Rice & Adams	Hand	None employed	[illegible]	No	No	No	No
600	14	None Employed	Reid hand control	None employed	Reid open	Dairymen's Supply	Hand	None employed	[illegible]	No	[illegible]	No.	No
150	20	None Employed	Reid, hand control	None employed	Reid open	Franklin	Hand	Kuestner	[illegible]	No	[illegible]	No.	No
[illegible]	[illegible]	Past. at Dairy 220					Hand			No		No.	No

Percentage of Dairies Employing Clarifiers — 16

Percentage of Dairies Employing Automatic Control and Record [illegible] — 14

Percentage of Dairies Employing Holding [illegible] of Flash Process — [illegible]

Percentage of Dairies [illegible] Machine — [illegible]

Percentage of Dairies Employing Bottle Sterilizers — [illegible]

As pasteurization consists of heating milk to a definite temperature and holding it at that temperature for a definite length of time, it is essential for proper work that the temperature to which the milk is heated and the time it is held should be automatically controlled. An automatic temperature-recording apparatus should be installed upon every pasteurizer.

Table No. 13-A contains the summarized bacteriological analyses, expressed in the Levy Rating, of bacteria per cubic centimeter for the entire year.

TABLE NO. 13A.

PASTEURIZING DIARIES.

	AT PLANT.										AS DELIVERED.				
	RAW.			PASTEURIZED.							ORIGINAL PACKAGE.				
H—Holding Process. F—Flash Process.	No. of Examinations.	Yearly Levy Rating Bacteria per c. c.	No. of Examinations.	Yearly Levy Rating Bacteria per c. c.	No. of Examinations.	Colon—in 1 c. c.	Percentage Positive.	No. of Examinations.	Yearly Levy Rating Bacteria per c. c.	No. of Examinations.	Colon—in 1 c. c.	Percentage Positive.	No. of Examinations 50,000 Bacteria per c. c. or Under.	Per Cent. of Exam. 50,000 Bacteria per c. c. or Under.
H	40	1,500,000	37	71,000	39	23	59	105	100,000	101	58	57	39	37
H	38	2,500,000	39	70,000	37	15	41	44	100,000	42	19	45	19	43
F	41	1,000,000	39	54,000	37	13	35	27	100,000	31	16	51	11	40
F	37	1,000,000	36	70,000	38	14	36	36	450,000	36	25	69	9	25
F	41	850,000	41	33,000	40	12	30	26	800,000	32	15	47	12	46
F	..	.....	..	.....	..	..	..	20	1,000,000	26	12	46	8	40
H	42	1,500,000	38	51,000	38	19	50	38	750,000	42	34	81	7	18
F	38	3,500,000	40	97,000	37	17	46	53	800,000	50	33	66	11	20
H	18	1,500,000	17	19,000	22	3	14	11	61,000	14	2	14	6	54
H	41	4,000,000	39	50,000	36	21	57	88	150,000	79	54	68	32	36
F	8	4,000,000	8	150,000	10	3	30	15	1,500,000	16	10	62	2	13
F	..	.....	..	.....	..	..	..	19	1,500,000	20	15	75	1	5
H	32	700,000	34	9,600	35	6	17	23	40,000	25	3	12	17	73
H	41	1,500,000	42	22,000	39	5	13	58	100,000	46	21	46	35	60
F	43	1,500,000	41	23,000	38	6	16	24	100,000	28	10	36	11	41
F	38	1,000,00	35	37,000	33	6	18	32	150,000	33	15	45	13	40
F	20	1,500,000	21	81,000	24	10	42	16	150,000	23	14	61	8	50
F	14	550,000	12	350,000	5	4	80	10	1,000,000	7	7	100	..	..
F	16	3,000,000	13	75,000	20	15	75	15	350,000	18	16	90	4	26
H	41	3,500,000	35	150,000	38	25	66	89	58,000	90	62	69	54	66
H	39	2,500,000	35	34,000	40	16	40	37	300,000	42	24	57	11	29
H	32	3,000,000	35	39,000	36	13	36	50	150,000	42	21	50	15	30
F	27	5,500,000	27	31,000	25	12	48	19	93,000	21	8	38	12	62
H	26	900,000	28	35,000	31	23	74	33	850,000	34	28	82	6	18
F	34	2,000,000	37	23,000	36	16	44	14	1,500,000	17	15	88	3	21
F	40	1,000,000	39	11,000	38	10	26	46	38,000	42	30	71	36	78
Pasteurized at ₵25.			..	.....	..	..	..	48	78,000	43	31	72	31	64
Pasteurized at ₵20.			..	.....	..	..	..	36	950,000	30	21	70	10	28
F	39	2,500,000	35	82,000	37	15	40	86	250,000	75	44	58	17	20
F	34	1,000,000	35	58,000	36	30	83	32	500,000	32	27	84	4	12
F	..	.....	..	.....	..	..	..	9	1,000,000	12	8	66	2	22
H	33	700,000	32	31,000	37	7	19	26	300,000	28	11	40	14	54
H	31	3,500,000	30	85,000	30	12	40	20	700,000	21	16	74	..	..
H	36	2,000,000	37	9,800	37	9	24	23	300,000	25	21	84	11	43
H	..	.....	..	.....	..	..	..	22	250,000	20	11	55	10	45
F	25	1,500,000	25	23,000	23	5	21	14	1,000,000	21	15	71	1	7
H	25	1,500,000	24	20,000	22	11	50	21	150,000	19	17	90	9	42
H	17	1,000,000	12	30,000	15	11	73	2	900,000	1	1	100	..	..
Pasteurized at ₵34.			..	.....	..	..	..	24	250,000	24	19	80	6	25
Pasteurized at ₵20.			..	.....	..	..	..	23	600,000	19	15	80	4	17
Pasteurized at ₵20.			..	.....	..	..	..	23	1,500,000	20	18	90	..	..
H	..	.....	..	.....	..	..	..	2	800,000	2	2	100	..	..
F	..	.....	..	.....	..	..	..	7	350,000	8	4	50	1	14
F	..	.....	..	.....	..	..	..	18	2,000,000	20	18	90	1	5
Pasteurized at ₵20.			..	.....	..	..	..	4	1,500,000	2	..	..	..	..
Total, 18--H Total, 20--F	Total, 1,027		Total, 998		Total, 1,009	Total, 407	Total, 40%	Total, 1,370		Total, 1,379	Total, 856	Total, 62%	Total, 501	

8. All shippers must have a milk house or place in which are kept only milk and utensils used in handling milk.

9. Milk utensils must be kept clean.

10. Absolutely no water must be added to any milk.

The following is a summary of the results of the work of the dairy farm inspectors:

Total number farms inspected during 1916	1,919
Total number inspections	6,793
Maximum score	99.5
Minimum score	22.55
Average score	52.57
Number scoring above 50	1,303
Number scoring below 50	616
Number herds tuberculin tested	29
Per cent. herds tuberculin tested	1.51
Number farms with dairies	1,284
Total number cows supplying Baltimore with milk	29,306
Total number cows milking	21,686
Total number gallons milk produced daily	38,973
Total number gallons cream produced daily	1,149

It should be stated that the number of gallons of milk produced daily, as here shown, is the estimate as furnished the dairy farm inspector by each producer. The actual amount of milk entering the city as obtained from railroad companies, automobile truck companies and dealers hauling their milk by wagon into the city was 35,000 gallons per day.

During the year 1916 there were 54 special investigations due to high bacterial counts or high leucocytes and streptococci counts, or both. The results of these investigations shows that in 11 cases the milk was not properly cooled; in 5 cases the stables and barnyard were dirty; in 3 cases the cows were dirty; in 5 cases the lymphatic glands were broken down; in 16 cases the milk was used too soon before or after parturition; in 7 cases garget was found; in 9

cases dirty utensils; in 2 cases the milk was held on the farm too long; in 1 case abortion was found; in 1 case dust from hay and straw being removed in stable was supposed to have caused the high count, while in 10 cases nothing wrong was discovered.

During this year there were 190 exclusions on account of watered milk, 10 because of disease on farms and 41 on account of insanitary conditions on farms.

Bakery Inspection.

Table No. 14 shows the number of bakery inspections and the number of bakeries ordered cleaned, by months, during the year. Our one bakery inspector who has been with the Department for a number of years, devotes his entire time to bakery inspection, and compels the proprietors to comply with our sanitary laws.

TABLE NO. 14.

SHOWING BAKERY INSPECTION, BY MONTHS, DURING 1916.

Months.	Bakeries Examined.	Bakeries Ordered Cleaned.
January	253	7
February	292	8
March	269	8
April	280	6
May	216	6
June	310	8
July	273	8
August	187	4
September	293	7
October	320	6
November	303	7
December	299	6
Total	3,295	80

Abattoir and Slaughter House Inspection.

Table No. 15 shows the number of cattle, sheep, hogs and calves condemned, by months, during the year. The work here shown is done by one inspector.

TABLE NO. 15.

ANIMALS CONDEMNED ON HOOF.

Months.	Cattle.	Sheep.	Hogs.	Calves.	Total.
January	7	..	3	8	18
February	6	4	2	3	15
March	7	..	2	9	18
April	2	3	4	11	20
May	4	3	3	5	15
June	4	7	6	5	22
July	5	4	5	5	19
August	6	7	4	3	20
September	7	5	3	3	18
October	5	6	4	3	18
November	3	7	5	4	19
December	2	..	6	9	18
Total	58	46	47	68	219

Laboratory Work.

Table No. 16 shows the number of analyses made in the chemical laboratory during the year. As usual, the milk work has largely predominated. 17,940 milk analyses were made and 666 miscellaneous chemical analyses. These consist of a variety of foodstuffs and of other materials submitted by divisions of this Department and other departments of the City Government.

TABLE NO. 16.

SHOWING THE NUMBER OF MILK, WATER AND MISCELLANEOUS CHEMICAL ANALYSES, MADE 1916.

Months.	Analyses. Milk	Water Analyses.	Miscellaneous. Analyses.
January	1,344	24	34
February	2,193	50	445
March	2,113	40	20
April	1,362	42	19
May	1,604	89	29
June	1,680	49	2
July	1,204	18	16
August	1,101	30	18
September	1,296	10	..
October	1,259	27	5
November	1,254	17	2
December	1,530	7	76
Total	17,940	403	666

The laboratory force made 403 chemical analyses of water. Regular examinations were made of the city water and also of the water from springs located in the public parks. Systematic examinations were also made of table waters sold on the local market. There still remains within the city limits a number of private wells and springs supplying citizens of

Baltimore drinking water. The number, however, has gradually decreased in the past ten years from several thousand to about 200. 167 analyses were made of such waters, and as a result of these analyses 109 wells and springs were recommended to the Water Department for condemnation. The elimination of all private wells and springs in thickly settled communities is very desirable for the protection of the public from water-borne epidemics of disease.

General Food Inspection.

Although the control of the milk supply has been the main work of the bureau, examinations of various foodstuffs, such as butter, lard and cheese, on the local market have been systematically made.

Table No. 17 shows the number and character of the inspections made by the food inspectors, by months, during the year 1916. A classification of the various foodstuffs condemned in these inspections will be found in Table No. 18. Three food inspectors are assigned to the inspection of foodstuffs other than milk, as sold in stores, markets, wharves and railroad depots.

TABLE NO. 17.

SHOWING AMOUNT OF WORK DONE BY THE FOOD INSPECTORS, BY MONTHS, DURING 1916.

Months.	Stores Inspected.	Markets Visited.	Wharves Visited.	Abattoirs Visited.	Slaughter Houses Visited.	Railroad Stations Visited.
January	1,329	163	672	50	347	25
February	1,471	162	701	50	338	30
March	1,873	186	756	53	350	35
April	1,592	161	672	49	330	36
May	1,660	165	719	47	307	30
June	1,368	179	728	48	340	40
July	1,245	163	663	50	359	27
August	1,402	118	629	48	351	27
September	1,192	164	1,827	52	344	27
October	1,564	156	674	48	353	29
November	1,602	175	644	49	370	31
December	1,534	204	700	50	356	30
Total	17,832	1,996	9,385	594	4,145	367

TABLE NO. 18.

SHOWING THE AMOUNT AND KIND OF FOODSTUFFS (except Milk, which will be found in Table No. 3) CONDEMNED, BY MONTHS, DURING 1916.

Months.	Vegetables.	Meats.	Poultry.	Game.	Sea Food.	Fruit.	Eggs.	Nuts.	Confectioners' Supplies.	Bakers' Supplies.	Grocery Sundries.	Total Amount of Foodstuffs Condemned.
January.	3,968	1,000	948	.....	605	1,560	16	36	201	13,316	852	22,502
February.	67,820	771	64	30	5,705	2,775	...	19	.....	.....	2,600	79.784
March.	47,760	802	10	.....	314	.....	...	...	7,985	.....	6,635	63,506
April.	73,389	1,884	11	.....	3,091	300	...	...	.....	.....	146	78,821
May.	12,795	1,046	.....	.....	9,605	7,852	...	...	.....	.....	.....	31,298
June.	52,035	1,205	97	.....	3,205	9,733	...	...	.....	2,488	.....	69,763
July.	17,675	1,439	27	.....	4,735	540	...	...	.....	.....	2,201	26,617
August.	7,827	2,305	.....	.....	258	5,015	90	...	.....	.....	.....	15,495
September. . . .	465	236	17	.....	430	1,050	...	...	.....	.....	2,713	4,911
October.	2.616	364	56	.....	1,400	6,250	...	...	.....	.....	238	10,924
November. . . .	3,595	759	99	964	1,225	40	...	29	.....	.....	.....	6,711
December.	1,995	9,663	570	403	234	360	715	...	.....	.....	78	14,019
Total.	292,940	21,474	1,899	1,397	30,808	35.475	821	84	8,186	15,804	15,463	424,351

Prosecutions.

During the year prosecutions were instituted against 37 persons for violating our various food ordinances. The following is a summary of these cases:

For selling milk without a permit, guilty..... 2
For selling milk below the legal standard, guilty..... 11
For selling milk below the legal standard, stetted..... 1
For selling milk below the legal standard, dismissed..... 2
For filling bottles on public highway, dismissed..... 1
For having unsound meats in possession, guilty..... 3
For selling ground meat containing a preservative, guilty..... 12

For returning unwashed cans to railroad station, guilty.....	1
For returning unwashed cans to railroad station, stetted.....	1
For interfering with an inspector in the discharge of his duty, guilty.....	1
For failure to improve insanitary condition of lunch room, guilty.....	1
For refusing to display permit number on wagon, guilty.....	1
Total number of prosecutions.....	37

It has been our policy to use prosecutions as a last resort and as a warning rather than as a regular proceeding in every case of irregularity. The number of persons found guilty shows that the prosecutions instigated have been in general cases where there could be no possibility of a doubt as to the guilt of the person prosecuted.

Special Work.

The Maryland State Dairymen's Association held its regular annual contest of milk shipped into Baltimore, and our Department collected the samples and made the analyses for judging this contest. Samples were collected three times from each of the 42 contestants, and both chemical and bacteriological analyses were made of these samples. We hope that in the future a larger number of Baltimore's milk producers will enter this contest, as they are of great educational value and should serve to stimulate the production of better milk for Baltimore.

Respectfully submitted,

Marion B. Hopkins, Ph. D.,

Chemist and Chief,
Bureau of Food and Dairy Inspection.

Report of the Tuberculosis Nurses Division

BALTIMORE, December 31, 1916.

JOHN D. BLAKE, M. D.,

Commissioner of Health.

DEAR SIR:

The report of the Tuberculosis Nurses' Division for the year 1916 is as follows:

Patients under supervision January 1, 1916	4,167
Old patients returned to list	101
New patients during 1916	1,859
Patients on visiting list during 1916	6,127

Of the 6,127 patients on the list during the year, there were 5,536 positive cases:

Positive White—	
Males	2,210
Females	1,954
Children	391
Positive Colored—	
Males	354
Females	505
Children	122

Of the 6,127 patients on the list during the year, there were 591 suspicious cases:

Suspicious White—	
Males	139
Females	198
Children	116

Suspicious Colored—			
Males		63	
Females		49	
Children		26	
Deaths during year		980	
White	671		
Colored	309		
Cases discharged during year		445	
Left city	292		
Moved, address unknown	109		
Not tuberculosis	41		
Cured	2		
Arrested	1		
Total			1,425
Patients under supervision January 1, 1917			4,702

Of the 1,859 new patients, only 606 were referred through private physicians; the rest through sanatoria, the Department's nurses and various medical and charitable agencies.

Fumigation Work.

Visits to arrange for fumigation after death	1,288
Visits to arrange for fumigation after removal to sanatoria or other quarters	2,256
Total	3,544

Results of instruction as to cleaning etc.:

After Death—	
Houses cleaned	817
Houses not cleaned	71
Houses vacant	32
Total	920

Bedding, etc., burned	289
Bedding, etc., sterilized	483
Rooms repapered, etc.	26
After Removal—	
Houses cleaned	1,763
Houses not cleaned	238
Houses vacant	167
Total	2,168
Bedding, etc., burned	194
Bedding, etc., sterilized	529
Rooms repapered	87
Nuisances reported	145

Referred to Charitable Agencies.

Federated Charities Relief	74	Diet	29
Jewish Federated Charities Relief	15	Diet	3
St. Vincent de Paul Society Relief	6	Diet	3
Total	95		35

Visits to patients	69,369
Visits of co-operation	8,081
Visits to arrange for fumigation	3,266
Visits to inspect after fumigation	3,191
Total	83,907
Cases registered	1,571

Treatment obtained for patients:			
Sent to dispensaries			2,141
To municipal dispensaries		1,941	
New patients	884		
Old patients returned	1,057		
Referred to other dispensaries		200	

Hospital care—	
Municipal Tuberculosis Hospital	286
State Sanatorium	443
Eudowood Sanatorium	105
Jewish Home for Consumptives	60
Pine Bluff Sanatorium	12
Asheville Sanatorium	1
Total	907

N. B.—Patients going into hospitals are not discharged from the visiting list, as their stay in these institutions is uncertain, some patients remaining but a few days.

Of 20 nurses on duty in the Tuberculosis Division, 19 are in the districts, 1 remaining in the Health Department to assist in the office.

Respectfully submitted,

HENRIETTA E. KNORR, R. N.,
Superintendent of Nurses.

WORK OF SCHOOL NURSES, 1915-16

Examinations, doctor and nurse		60,421
Examinations, nurse		69,542
Visits to homes		10,487
Visits to schools		378
Co-operative visits		131
Children treated		730
Children taken to dispensary		1,317
Eye	182	
Ear	3	
Throat	54	
Nose	93	
Miscellaneous	955	
Children referred to the Federated Charities for relief		190

Report of the Municipal Tuberculosis Dispensaries

BALTIMORE, September 11, 1917.

JOHN D. BLAKE, M. D.,

Commissioner of Health.

DEAR SIR:

In submiting the following report it is certainly wise to again speak of the real help which an X-Ray picture would be in the border-line case. Whilst it still remains true that a positive sputum is of great importance in this work, we have a large number who cannot be made understand what it means to give the specimen of sputum; it follows then that the importance of the sputum examination in such cases is practically nil. Here is where the X-Ray would undoubtedly help us. Whilst the details have not been worked out, the cost could be kept within reasonable limits by arranging to have these cases in question come on a certain day, thus doing away with the necessity of using the apparatus on the remaining days of the week.

In our last report it was pointed out that the employing of a nurse to care for the social phase of the work would much improve the work of the dispensaries. It is earnestly hoped that the Department will be able to supply this need in the near future.

Your Superintendent is glad to again acknowledge the real help given by the nurses.

Respectfully,

JOHN E. O'NEILL, M. D.,

Superintendent of the Municipal Dispensaries.

YEAR'S REPORT OF THE MUNICIPAL TUBERCULOSIS DISPENSARIES OF BALTIMORE, 1916.

—	*New Patients.*	*Positive.*	*Suspicious.*	*Negative.*	*White.*	*Colored.*	*Old Patients Returned.*	*Rx. Given.*	*Advised Sanatorium.*	*Entered Sanatorium.*	*Advised Other Clinic.*	*Sputum Report.*	*Sent by T. B. Nurses.*	*Other Nurses.*	*Federated Charities.*	*Friends.*	*Other Dispensaries.*	*Physicians.*	*Came of Own Accord.*
1418 Light street	133	34	55	44	119	14	245	304	22	13	30	48	53	19	12	19	8	16	6
602 South Bond street	421	48	152	221	408	13	634	830	46	33	91	69	233	16	28	86	26	3	29
1220 McCulloh street	266	39	82	145	184	82	166	265	23	13	64	70	107	7	27	70	33	12	10
2032 Maryland avenue*	64	11	31	22	60	4	13	41	5	2	21	13	53	0	6	1	2	2	0
Total	884	132	320	432	771	113	1,058	1,440	96	61	206	200	446	42	73	176	69	33	45

*Maryland Avenue Dispensary open April 10, 1916.

Report of Inspector of Plumbing

BALTIMORE, February 7, 1917.

JOHN D. BLAKE, M. D.,

Commissioner of Health.

DEAR SIR:

I hand you herewith the report of the Plumbing Division of the Health Department for the year 1916:

It might be interesting to you to compare the permits issued for sanitary sewers and the number of properties shown connected during 1916 with our report to you of 1915 and reports of previous years which are shown in the Health Department's yearly report, which shows the condition of this work at the end of 1914. It would appear from a study of the properties connected each year that we are now on the downgrade in regard to the number of houses to be connected to the new sewer for which connections have been provided by the Sewerage Commission or by the Highways Engineer's Department since the Sewerage Commission went out of existence.

At this writing we have sent out all the notices on properties which Mr. Calvin W. Hendrick, Chief Engineer, has notified us were ready to be connected to the city's sanitary sewers, and have followed these notices up with finals, and we are following up the final notices by taking the property owners to the Police Court for non-compliance with their notice to connect their property with the sewer, and doing everything possible to push this work to its completion

quickly. Up to this time it appears that we have not been informed as to the number of connections which have actually been provided by the Sewerage Commissioners, etc., to serve properties which it was expected would be provided with a connection under the Sewerage Enabling Act. This information would be of value to us in determining the length of time it should take to complete this work, as well as the number of properties which we should expect to have connected during this year of 1917.

I understand that the city was divided into fifty districts by the Sewerage Commission, and we have received instructions from them to order the properties in all except eleven of these districts and part of two others to serve notices on the property owners to make connection with the sewer, except in the case of a few of these districts just mentioned, where there are straggling sections of a district which the engineer in charge of sewers is now looking up and sending us instructions on from time to time. The districts which I understand have not been sent us are Nos. 1, 2, 3, and 4, taking in the southwestern section of the city, you might say, from Scott street to Loudon Park, and south of Pratt street, Nos. 10, 11 and 12, taking in Locust Point, from Light street east to the Fort, and Nos. 47, 48, 49 and 50, taking in the extreme northeastern and northern section, including Waverly, and the northwestern section, including Walbrook, Forest Park and West Arlington. Districts Nos. 5 and 39, I understand only a part of these districts have not been sent in, and no doubt will be coming in shortly.

You understand, of course, that this part of our report on sheet marked No. 5, which indicates that up to December 31st, 1916, 90,138 sanitary sewer permits have been issued, does not mean that 90,138 properties erected previous to the Sewerage Enabling Act going into effect are going to be connected under those permits to the new sewer, as for instance

at the present time when a row of new buildings is being erected in a location where it is possible to build a sewer to serve said buildings and connect to the city's sanitary sewerage system, the builder is expected to build this sewer and deed it over to the city. When proper arrangements have been made to do this, the Health Department will then issue permits to install interior plumbing work, and the plumber at the same time makes out the usual sanitary sewer permits, and among the 90,138 mentioned above there are quite a number of permits which are issued to connect these new properties to such a sewer.

Respectfully yours,

A. J. AHERN,

Chief Inspector, Plumbing Division.

PERMITS ISSUED.

MONTHS.	*Interior.*	*Drain.*	*Sanitary Sewers.*	*Total.*
January	227	11	1,179	1,417
February	233	4	1,367	1,604
March	307	9	1,575	1,891
April	312	8	1,707	2,027
May	375	7	1,980	2,362
June	378	3	1,479	1,860
July	290	5	1,142	1,437
August	371	6	1,025	1,402
September	330	9	1,013	1,352
October	332	2	1,531	1,865
November	314	10	1,385	1,709
December	238	5	633	876
Total	3,707	79	16,016	19,802

Plumbing inspections	61,973
Sanitary inspections	11,851
Drain inspections	42
Notices to abate nuisances	1,204

Applications approved, Highways Engineer's Department...	3
Approval of drainage for Inspector of Bldg.'s office.....	677
Minor privilege applications approved.....	153
Permits issued for removal of night soil.....	1,461
Loads to boat.....	1,578
Summons for non-compliance to connect property.....	357
Summons, miscellaneous.....	14
Warrants.....	17
Fines.....	$52.75
Choked or defective sanitary sewers.....	507

SANITARY SEWERS.

Permits issued to December 31st, 1915.....	74,122	
Permits issued January 1st to December 31, 1916....	16,016	
Permits issued to date.....		90,138
Connections to December 31st, 1915.....	67,511	
Connections January 1st to December 31st, 1916....	15,532	
Connections to date.....		83,043
Under construction.....		7,095

Number of Plumbing Fixtures Connected to City Sanitary Sewers.

Water closets.....	111,335
Wash basins.....	50,178
Bath tubs.....	54,727
Wash trays.....	6,851
Sinks.....	102,518
Urinals.....	2,269
Slop hoppers.....	1,225
Miscellaneous.....	5,011
Total.....	334,114

Abandoned.

Drop privies.....	44,211
Wells.....	15,823
Old sewer connections.....	13,272
Total.....	73,306

Report of Complaint Clerk

BALTIMORE, March 2, 1917.

JOHN D. BLAKE, M. D.,

Commissioner of Health.

DEAR SIR:

I hand you herewith yearly report for the year 1916 of complaints received:

WARD.	*Referred to Health Warden.*	*Referred to Tenement House Division.*	*Referred to Plumbing Division.*
1.	150	1	30
2.	68	3	32
3.	122	2	40
4.	191	..	32
5.	232	..	64
6.	126	..	68
7.	106	..	76
8.	124	..	66
9.	228	..	30
10.	98	..	53
11.	90	3	38
12.	120	..	30
13.	145	..	28
14.	100	4	37
15.	344	..	96
16.	168	..	55

Ward.	*Referred to Health Warden.*	*Referred to Tenement House Division.*	*Referred to Plumbing Division.*
17.	108	5	54
18.	138	2	31
19.	124	. .	54
20.	149	. .	41
21.	75	. .	17
22.	110	6	52
23.	163	2	63
24.	208	. .	42
Total.	3,487	28	1,129
	28		
	1,129		
	4,644		

Respectfully yours,

S. M. Doyle,
Complaint Clerk.

Report of Registrar's Clerk

BALTIMORE, December 31, 1916.

JOHN D. BLAKE, M. D.,

Commissioner of Health.

DEAR SIR:

I respectfully submit my annual report of all transcripts issued during the year 1916:

	Births Pd.	*Deaths Pd.*	*Total.*	*Amount.*	*Free Births.*
January.	73	195	268	$114.50	44
February.	71	151	222	93.01	46
March.	89	220	309	129.10	62
April.	79	167	246	103.00	44
May.	88	148	236	96.00	51
June.	229	150	379	111.50	160
July.	213	150	363	96.00	174
August.	240	147	387	111.66	171
September. . . .	166	121	287	82.00	128
October.	189	163	352	108.50	142
November. . . .	149	154	303	103.61	103
December.	86	151	237	95.53	55
Total.	1,672	1,917	3,589	$1,244.41	1,180

Respectfully submitted,

GEO. C. WEDDERBURN,
Registrar's Clerk.

Report of Index Clerk, Bureau of Vital Statistics

BALTIMORE, January 1st, 1917.

JOHN D. BLAKE, M. D.,

Commissioner of Health.

DEAR SIR:

I beg to submit for your consideration the report of work performed by me during the year ending December 31st, 1916:

Number of births indexed	15,085
Number of deaths indexed	10,647
Number of still births indexed	1,235

The birth registration for 1916 shows an increase over 1915 of 1,451.

This being due to the system of checking every possible avenue where it is possible to procure a birth certificate, as outlined in my report of 1915.

The greatest increase has been during the latter half of the year, owing principally to the fact that during the month of July there were 21 physicians and midwives prosecuted in the Criminal Court of Baltimore City for failing or neglecting to register the births which they had attended within the prescribed time, which resulted in this Department receiving 397 certificates of birth for children born prior to 1916.

I have also filed all birth and death certificates, have kept the physicians and midwives supplied with certificates of birth and death, and have attended to all correspondence connected with my Department, which has increased considerably, due to the following up of the birth certificates. I have also attended to all duties asigned to me by the Commissioner and Assistant Commissioner of Health.

Respectfully submitted,

CHARLES M. SINCLAIR,
Index Clerk.

Report of Burial Permit Clerks

BALTIMORE, January 1, 1917.

JOHN D. BLAKE, M. D.,
Commissioner of Health.

DEAR SIR:

We hereby respectfully submit the report of work done by the burial permit clerks for the year ending December 31, 1916.

The following table exhibits a summary of the various kinds of permits issued during the year:

MONTHS.	*Burial Permits, City.*	*Burial Permits, Transit.*	*Burial Permits, Still Births.*	*Burial Permits, Shipping.*	*Burial Permits, Disinter.*	*Removal Permits.*	*Total.*
January	1,001	204	93	152	12	501	1,963
February	891	185	112	137	10	451	1,786
March	1,001	192	104	161	13	474	1,945
April	948	180	82	149	58	457	1,874
May	822	181	98	157	80	410	1,748
June	709	176	117	158	76	361	1,597
July	794	165	117	163	1	372	1,612
August	843	203	109	196	6	431	1,788
September	692	196	150	155	25	410	1,628
October	768	165	102	166	54	401	1,656
November	744	173	94	161	23	376	1,571
December	808	176	109	191	12	412	1,708
Total	10,021	2,196	1,287	1,946	370	5,056	20,876

During the year there were received from cemeteries and transportation companies 15,820 burial, disinter and shipping permits which have been placed in numerical order, and the same have been filed for reference.

Respectfully submitted,

HARRY C. ANDREWS,
ROBERT R. KRAUTER,
Burial Permit Clerks.

Report of Chief Tenement House Inspector

BALTIMORE, December 31, 1916.

JOHN D. BLAKE, M. D.,

Commissioner of Health.

DEAR SIR:

I beg leave to submit the following as the report of the Tenement House Inspector for the year 1916:

Nuisances, open or pending	271
Houses inspected	2,905
Houses reinspected	2,332
Complaints investigated	289
Special inspections	136
Hoppers or frost-proof closets installed	134
Interior water closets installed	71
Bath tubs installed	43
Bath tubs repaired	0
Privies repaired	1
Privies cleaned	106
Privy wells filled	99
Premises cleaned	14
Rubbish removed from rooms, yard and cellar	132
Roofs repaired	7
Rain leaders and down spouts repaired	38
Soil pipes repaired	5
Sinks installed	0
Sinks repaired	4
Unsanitay basements vacated	2
Ventilators installed	0
Water installed	8
Water pipes repaired	8

Water closets repaired	45
Water drained from basement or cellar	0
Waste pipes repaired	8
Walls of halls, stairs and rooms whitewashed or papered	40
Warrants to show cause	4
Yards repaved and regraded	12
Filthy beddings removed	0
Notices issued	261
Nuisances ordered abated	390
Miscellaneous repairs	17
Nuisances cancelled	2

Very respectfully,

DANIEL W. SMITH, M. D.,

Chief Tenement House Inspector.

Report of Superintendent of Fumigations and Burials

BALTIMORE, January 1, 1917.

JOHN D. BLAKE, M. D.,

Commissioner of Health.

DEAR SIR:

I herewith submit the report of my division for the year 1916:

FUMIGATION.

Total number of houses..... 4,960
Consisting of 17,293 rooms, fumigated.

BODIES TO ANATOMICAL BOARD.

Received from hospitals and police stations.....939 bodies, which were turned over to the Anatomical Board in accordance with Act of the General Assembly of Maryland, Chapter 163, 1882.

Bodies buried in public cemetery..... 59

GOODS DESTROYED AND STERILIZED.

Clothing and bedding destroyed..... 1,328
Clothing and bedding sterilized..... 5,143

MORGUE.

Bodies received at Morgue..... 391
Autopsies performed by Dr. N. G. Keirle..... 101

Respectfully submitted,

WM. E. WOODALL OF W.,

Superintendent of Fumigation and Burial of Pauper Dead.

ANNUAL REPORT

OF THE

HIGHWAYS ENGINEER

TO THE

Mayor and City Council of Baltimore

FOR THE

Fiscal Year Ending December 31, 1916

BALTIMORE
KING BROTHERS
CITY PRINTER

1917

ORGANIZATION OF THE

HIGHWAYS ENGINEER'S DEPARTMENT

R. MAVIN COOKSEY.....Highways Engineer
GEORGE M. BOTELER .....Chief Clerk and Paymaster

Sub-Division of Street Repairs and New Paving.

Sub-Division of Bridges.

Sub-Division of Sewers.

Sub-Division of Sewers, House Connections.

Sub-Division of Inspection.

Sub-Division of Footway Inspection.

Sub-Division of Forestry.

Sub-Division of Municipal Laboratory.

Highways Engineer's Report

BALTIMORE, January 29th, 1917.

To the Honorable the Mayor and City Council.

GENTLEMEN:

The following is a description and report of the work carried on by this Department during the year 1916:

RECONSTRUCTION AND REPAIRING OF STREETS.

The Street Repair Division, during the year 1916, were very active and spent the major portion of the funds granted in the reconstruction of streets, very little money being expended in the repairing of cobble, repairs being made only in cases where necessary for the safety of traffic.

Curley street, from the north side of Madison street, to a point 242 feet north, was paved with sheet asphalt on concrete, the cost of this work being borne jointly by the City and abutting property owners.

Madison street, from a point 80 feet east of Linwood avenue, to 75 feet east of Curley street, was paved with vitrified block on concrete, the cost being borne jointly by the City and abutting property owners.

Welsh alley, from the south building line of Lexington street, to the north building line of Marion street, was paved with old granite block on concrete base.

Lexington street, from the east building line of Harrison street, to the west building line of the Fallsway, was paved with granite block on concrete base. The intersection of Harrison and Lexington streets was paved with sheet asphalt. This small stretch of paving makes an important

connection with the improved paving on the Fallsway and the improved paving of Lexington street westward from Harrison street.

Penrose street, from the west curb line of Fulton avenue, to 119 feet westward, was paved with vitrified block. This small stretch of paving connects up improved paving both ways, which was left out when Penrose street was paved in 1915, on account of the Sewerage Commission expecting to do work at this point.

China alley, from the north building line of Ostend street, to the south building line of West street, was paved with old vitrified block on concrete base, being paid for by the Paving Commission.

Pulaski street, from the north building line of Lexington street, to the south building line of Saratoga street, was paved with sheet asphalt on 6-inch concrete base; also Pulaski street, from the north building line of Franklin street, to the south building line of Edmondson avenue, was paved with sheet asphalt. The paving of this street connects up small strips of improved paving done in past years, making improved paving from Edmondson avenue to Lexington street. The Paving Commission will continue this paving southward.

Pearl street, from Louisiana avenue to Saratoga street, was paved with sheet asphalt on concrete base. This street was formerly paved with asphalt block, but was in such condition as to need repairs from curb to curb; therefore was replaced with sheet asphalt.

Montreal street, from the east building line of Mt. Royal avenue to south building line of North avenue, was paved with sheet asphalt on cobble. This being only a small stretch of cobble, and making a good connection between Mt. Royal and North avenues for northbound traffic, after taking the matter up with the various City Departments and finding this street would not be cut for mains, etc., it

was decided to lay this asphalt on cobble base; therefore making an important connection from Mt. Royal to North avenues.

Oak street, from the north building line of North avenue, to south building line of 21st street, was paved with sheet asphalt on concrete base. Oak street was formerly paved with cobble, and was in such condition as to make repairs quite expensive; therefore this cobble was taken up and the street repaved with sheet asphalt.

In addition to the above streets, the following alleys were paved with improved paving by this Department, on orders from the Health Department:

Alley south of Mosher street, from the east building line of Etting street to 93.1 feet east. Vitrified block on concrete base.

Alley in the rear of 2, 4 and 6 N. Eutaw street, from the south building line of Garrett alley to north building line of alley south. Vitrified block on concrete base.

Hudson alley, from the south building line of Oliver street 110 feet south. Vitrified block on concrete base.

Alley south of Oliver street, from west building line of Hudson alley 128.5 feet west. Vitrified block on concrete base.

Alley rear of 2100 block East Baltimore street. Vitrified block on concrete base.

Alleys Paved Under Contract.

During the year the following number of alleys were paved under contract with cement concrete:

Public alleys.	16.....	2,889 square yards.
Private alleys.	317.....	59,079 square yards.

The above includes alleys only over five feet in width. Would advise that many more alleys could have been paved

by this Department had clearance been obtained from other City Departments and Public Service Corporations. Under the present condition of handling these clearances, this trouble should be avoided in the coming year. If sufficient contractors bid on this work, all alleys in the old City limits should be paved during the year 1917. The contractors working in the past year, also a small number, used all the Gabbro stone that could be quarried in and around Baltimore, having to lay off their forces waiting for stone. In specifying hard limestone for our work during the coming season, this trouble should be avoided, and the contractors allowed to proceed with their work without delay on this account.

In addition to the above work, sundry smaller pieces of work were undertaken by this Division of this Department, and it is the intention to continue this work of repaving during the year 1917.

39,517 square yards of sheet asphalt were laid by this Division; 2,269 square yards of bituminous concrete; 57,150 square yards ordinary macadam repaired, and 273,700 square yards of streets oiled.

During the year this Department purchased, for use on repairs to vitrified and granite block streets, an air compressor, which machine has cut the cost of repairs to this class of paving considerably; the work that this machine has actually done cutting the price to 25% of the cost of this same work by hand labor. We also purchased one Climax road machine for surfacing of unpaved street. This machine has also saved considerable money on this work, more than paying for itself by the small amount of work on which it was used this past year.

Division of Improved Paving and Bridges.

I call attention to the fact that this Department has under supervision, during guarantee period, 152.50 miles of

streets, or 3,000,298.19 square yards, as against 134 miles, or 2,740,589.17 square yards, on January 1st, 1916. During the year the guarantee expired on 65,605.80 square yards, with a mileage of 3.05. The amount received for maintenance from all sources during the year was 325,314.82 square yards, or a length of 15.69 miles.

Minor repairs were made during the year to the following bridges: Ashton Street, Biddle Street, Brunswick Street, Bush Street, Calvert Street, Charles Street, Chase Street, Columbia Avenue, Caton Avenue, Cedar Avenue, Culver Street, Clipper Mill Foot Bridge, Calverton Road Culvert, Dorsey's Lane Culvert, Edmondson Avenue, Franklin Road, Falls Road Culvert, Garrison Lane Culvert, Harmon's, Hollins Street, Hillen Road Culvert, Lombard Street, Lee Street, Lafayette Avenue Culvert, Lexington Street Culvert, Light Street Foot Bridge, Maryland Avenue Bridge, Mt. Vernon Avenue Bridge, Ostend Street, Poplar Grove Street, Preston Street, Raynor Avenue Culvert, St. Paul Street, Stoney Run, Slingluff Avenue, Thirteenth Street Culvert, Union Avenue Culvert, Wilkens Avenue, and Wilkens Avenue Culverts. In addition to this, other miscellaneous bridges were repaired.

Bentalou Street Bridge—The entire iron work of this bridge was painted, and other minor repairs made.

Cedar Avenue Bridge—The iron work under floor from the west end, including span over the Northern Central railroad tracks, was cleaned and painted, a number of new lateral and diagonal rods replaced; also spaces between members were sealed up with Elastite to protect same from the gases of locomotives. The roadway floor was repaired and repairs made to handrailing.

Guilford Avenue Bridge—The portion of roadway east of the United Railways track was entirely reconstructed with Georgia pine, the under floor being treated with Carbolineum

Wood Preservative, on which creosoted wood block was laid, and joints poured with Barrett's block filler.

North Monroe Street Bridge—The entire west roadway of this bridge was reconstructed with Georgia pine lumber and treated in same manner as the Guilford Avenue Bridge. Lateral rods were renewed and all iron work not encased in concrete, painted. The handrailing was repaired and other minor repairs made, including concrete headers capped with granite block, on both ends of the bridge.

On account of the inability to protect these bridges by painting from the corrosive action of gases emanating from locomotives, it was decided to provide permanent protection to principal members of the floor system by covering them with a protective coating of reinforced concrete. Plans were made providing for a covering of 1½ inches of reinforced concrete, to be applied to the longitudinal and transverse floor beams and other members. The iron work was first thoroughly cleaned; then, after being wrapped with reinforcing material, forms were built around members wherever practical and concrete poured into them. On the larger members the concrete was plastered on by skilled workmen.

The old wooden footways on the Guilford Avenue Bridge were replaced by a three-inch reinforced concrete slab, and the same reduced in width. The iron eye-beams joints were encased with concrete, as was the base of the handrail posts.

The work on the North Monroe Street Bridge was applied to nine transverse floor beams over the tracks of the Pennsylvania and Western Maryland Railroad. All rods which were decreased in section were removed.

Grade Establishments.

Grade establishments to the number of 107 were requested by this Department, checked upon receipt from the City Surveyor, the profile ploted and records completed. The number of squares established was 174 and the total length

67,055.80 linear feet. As evidenced again this year, a source of much expense to the City and to abutting property owners involved is the legal insufficiency of the existing laws to cover cases where owners develop property and entirely disregard grade establishments in cases of private streets. Legislation should be enacted compelling compliance with grades as established. The City should also refuse to permit installation of conveniences until streets are properly graded in conformity with the recorded established grade. I would recommend that when the construction of a new street is completed the grade be immediately established legally, in agreement with the work as built, if there has never been an establishment made, and if the design of the street departs from an existing grade, a re-establishment should be requested. This is, in my opinion, essential to safeguard the City's rights and validate action taken to compel property owners to adjust footways.

Footway Division.

For the first six months of the year an active footway campaign was carried on, and at the rate footways were being laid by property owners, and under City contract, the total number for the year would have been double that of 1915. Injunctions, obtained by property owners not in sympathy with the progressive spirit of your Honor, placed the City in the position where it was unable to go ahead with this work until definite decisions could be secured from the Courts outlining the City's authority in the matter of laying footways in front of property where the owner had failed to comply with the City's requirements; therefore, the Footway Division was practically abolished on July 1st, and after that date notices were served only on footways that were in a dangerous condition. In the case of the first injunction that was tried, the City won a partial victory.

The second, which was for restraint of payment of bill for footway that had been laid by the City, was won outright, and in the third case, injunction to restrain the City from laying cement footway, where the City claimed the brick footway was not in good condition and did not conform to proper grade, the injunction was dismissed. This last decision was rather a sweeping victory for the City, as the Court dwelt more on the point as to the City's authority in the matter of grades than in the first case.

In addition to the laying of footways in front of private property, this Division, during the year 1916, laid more footways in front of City property than any other previous year. At present all Public Schools, practically, on improved streets, have improved footways, or are under contract for same to be laid.

In the matter of paving private three-foot alleys, in which an active campaign has been started, this work has been somewhat retarded by not being able to procure releases from other Departments. Practically all alleys that have been released were completed before cold weather set in.

Besides the usual maintenance and repair work of last year, this Division took over the repair work to footways made necessary by the work of the Water Department, and at the end of the year had practically completed all outstanding work orders, although when the Water Department turned this work over to the Footway Division over two hundred jobs were uncompleted.

In reference to drainage from down spouts, beg to advise in the majority of cases where notices were served the property owners placed their drains underground.

The following is a statement giving the number of notices served, total footways laid, etc.:

Notices served	8,384
Footways laid by owners	6,553
Footways laid by City	2,189
Total square feet private footways	2,185,558
Total square feet City property	105,646
Number of drains installed	9,646

Very few complaints have been made regarding the footways laid by the City during the year 1916.

Municipal Laboratory.

During the year 1916 there were laid 358,912.44 square yards of sheet asphalt and bituminous concrete, of which the Paving Commission laid 236,067.29; Commissioners for Opening Streets, 77,909.00, and the Highways Engineer, 44,936.15 square yards. All the materials entering into this paving was inspected at the various plants, and daily analyses made of the mixtures, which were taken on the street, twice a day. This Department also tested all other bituminous materials used by the various City Departments, such as road oils, road binders, block fillers, etc.

In addition to the above, 12,600 tons of Anthracite, 35,000 tons of Bituminous coal and 100 tons of coke were purchased under the supervision of this office. The Anthracite tonnage mentioned above not only included the regular sizes required by the various City Departments, which were under contract, such as Nos. 1, 2, 3 and Nut, but also Pea, Buckwheat, No. 1 Rice and Barley, which were experimented with at the several power plants, which heretofore used large tonnages of Bituminous coal. The purchase of these small sizes was brought by the excessively highly price of Bituminous coal.

This Department has handled the open-market purchases of Bituminous coal for the City, sending proposals each month to all dealers and shippers, recommending to the

Purchasing Agent, through the Laboratory Committee, the most suitable coal at the lowest figure.

Test and examinations of lubricating oils, greases, gasolines, kerosenes, fuel oils, brass, bronze, bricks, lead and candles were made for various Departments.

The following is a summary of expenditures of the Municipal Laboratory for the year 1916:

Asphalt Division—		
Salaries		$7,912.36
Equipment and Maintenance		1,339.94
		$9,252.30
Credit:		
Insp. for S. R. Comm.	$63.50	
Asphalt analyses	27.00	
		90.50
		$9,161.80
Chemical Division—		
Salaries	$1,966.61	
Equipment and Maintenance	659.97	
	$2,626.58	
Credit Misc. Analyses	42.50	
		2,584.08
		$11,745.88

Sheet Asphalt and Bituminous Concrete laid during the year—

Paving Commission	236,067.29	sq. yds.
Comm. for Opening Streets	77,909.00	sq. yds.
Highways Engineer	44,936.15	sq. yds.
Total	358,912.44	sq. yds.

Cost of Inspection, per sq. yd.	$.02204537
Cost of Equipment and Maintenance per sq. yd.	.00348118
Total cost, per sq. yd.	$.02552655

Bureau of Complaints.

In reference to the work of this Bureau, wish to report that during the year just past there have come into the Bureau at various times approximately 4,500 complaints, the same having been reported through the Police Department, the general public and the different City Departments. In the case of emergency—that is, a dangerous condition that needs immediate attention—it is telephoned at once to the construction division of the Department responsible, with instructions to make same safe at once, until such time when repairs can be made in full. Since the public has become more accustomed to the Bureau as a source of information, the inquiries along this line have greatly increased. Besides the many requests made for information, personally, at the Bureau, there are also a great many requests for information both by telephone and mail. These requests many times appertain to information outside of Municipal affairs; however, the Bureau endeavors at all times to answer these questions, or put the parties inquiring on the right direction, where said information would be forthcoming.

Sewer Division.

In regard to the work of this Division, would say that on January 1st, 1916, this Division took charge of the maintenance and operation of the sewer system of the City, including the sanitary sewers and storm-water drains, the Sewage Pumping Station and the Sewage Disposal Plant built by the Sewerage Commission; also the sewers and drains belonging to the City which were built by other agencies. The Division is organized in four sections, as follows:

Division Office;
Day Labor Force;
Sewage Pumping Station;
Sewage Disposal Plant.

All of the records of the Sewerage Commission were turned over to the Division upon its organization, and a large part of the time of the Engineer in Charge of Sewers and of the office force has been devoted to furnishing, from these records, information as to the location of connections to the sanitary sewers for existing buildings and as to the provision of proper sanitary drainage for new buildings and developments; and in connection with claims and law suits against the City. The office has also prepared plans for the construction of sanitary sewers to be built by private parties who have developed new properties, and for the storm-water drains and inlets required in connection with the work of the Paving and Annex Commissions. Under the rules now in force, all sanitary lateral sewers required in connection with the development of new properties must be built by and at the expense of the owners, in accordance with plans prepared by this Division and under our supervision; and under agreements providing that such sewers shall become the property of the City when they are connected to the sanitary system, without further compensation to the owners Plans were prepared during the year for fifty-three such sewers, having a total length of about 7 miles. The practice of having private sewers built according to plans prepared by the City was inaugurated by the Sewerage Commission in 1910, and the total length of sewers so built to date is approximately 40 miles. It is expected that future extensions of lateral sewers into undeveloped territory will be made in this way, the main trunk lines only being built by the City.

Under the law, the cleaning of storm-water drains, inlets and catch basins is done by the Commissioner of Street Cleaning, but all flushing and cleaning of sanitary sewers is handled by the Day Labor force of this Division, which also makes repairs to sanitary sewers, storm-water drains, inlets and manholes when necessary. The amount of repair

work during the year was, however, very small, consisting chiefly of replacing broken inlet heads and manhole covers. A considerable number of stoppages in house connections and main sewers were relieved by the Day Labor force during the year, the majority of them being due to the introduction of improper material into the sewers, either through the house plumbing or through manholes. In all such cases the cost of relieving the stoppage is charged to the owner of the property where the trouble originated. In addition to the maintenance of the sanitary sewer and storm-water drainage system, the Day Labor force did a large amount of work in constructing sanitary sewers and storm-water drains, at the expense of the Sewerage Commission funds; in extending house connections at the expense of private parties, inlets and inlet connections for the Annex Commission, Paving Commission, etc.; the total expenditure for labor on this account being about $85,000, and for material about $32,000. At the end of the year practically all of this cost, plus 10% for inspection and use of tools, had been billed against the parties for whom the work was done and credited to the Private Paving and Inspection Account.

During the year the average daily volume of sewage received at the Sewage Disposal Plant was 39,270,000 gallons, being an increase of approximately 25% over the volume of flow in 1915. The final effluent from the Disposal Plant was at all times stable and odorless, and the operation of the entire plant was satisfactory from a sanitary standpoint. The odors arising from the operation of the plant were noticeable less than in previous years, and as the volume of sewage increases these odors should be still further diminished. A contract was let to the Heineken Reduction Company early in the year, under which that Company agreed to purchase the sludge produced by the plant, after drying on sand beds. Payments on this contract are based on the weight of material shipped away from the Disposal

Plant, after further drying by the Contractor, and the weight of such material shipped from the beginning of the Contractor's operations, in May, to the end of the year, was 2,527.56 tons. Under the contract, the City reserves the right to sell liquid sludge as it comes from the digesting tanks to farmers in the vicinity, and the amount so taken was 4,391½ two-horse-wagon loads. The total volume of sludge taken during the year by the contractor and by farmers was nearly equal to the entire quantity produced.

The total volume of sewage pumped at the Sewage Pumping Station during the year was 7,654,460,000 gallons, an average of 20,912,000 gallons per day, which is an increase of nearly 16% over the average volume pumped in 1915. The average head against which the pumps operated during 1916, was 71.49 feet, and the average cost of raising 1,000,000 gallons one foot was 5.58 cents, compared to an average cost of 6.293 cents in 1915. The cost of disposing of screenings was 72.8 cents per million gallons pumped, as compared with a cost in 1915 of 64.3 cents per million gallons pumped, the increase being due to an increase in the quantity of screenings per million gallons and to the increased cost of coal in 1916, compared to the cost of coal in 1915.

The cost of operating the Station was considerably increased by the sudden increase in the price of coal which occurred in August, 1916, but we were fortunate in having on hand a considerable quantity of semi-bituminous coal, such as had been used exclusively up to that time in operating the Station. By mixing this coal with anthracite coal of the smaller sizes, which we were able to purchase at a reasonable price, we have been able to conserve our supply of semi-bituminous coal to such an extent that we have been obliged to purchase only a small quantity of semi-bituminous coal at the current high prices. The mixing of the two kinds of coal has, however, made it necessary for us to burn a somewhat greater total quantity and has

increased the work of our fireroom force, but we have been able to get along so far without increasing the number of men employed.

At the end of the year, the total length of the sanitary sewer system, including house connections, was 610 miles. The number of manholes on sanitary sewers was about 10,000, and the number of connections provided for, including Y-branches not yet extended, was about 116,000; the length of the storm-water drainage system, including inlet connections, was about 200 miles; the number of manholes and drop wells was about 4,000 and the number of inlets and catch basins was about 6,000. The total length of sanitary sewers built by private parties to date is approximately 40 miles; the number of connections on such sewers, including Y-branches not yet extended, is nearly 11,000, and the number of manholes about 700.

The cost of the Sewer Division for the year was as follows:

Division Office and Day Labor Force—		
Salaries	$15,380.68	
Labor	39,863.33	
Materials	3,978.61	
Supplies, etc.	1,879.48	
		$61,102.10
Sewage Pumping Station—		
Salaries and Labor	$24,286.02	
Coal, Oil, Waste and Supplies	17,070.97	
		41,358.99
Sewage Disposal Plant—		
Salaries and Labor	$31,311.04	
Materials and Supplies	3,979.54	
		35,290.58
Net Total Division Expenses		$137,749.67

The revenue received at the Sewage Disposal Plant from rentals of City property and sales of sludge was $3,998.22, making the total net cost of maintaining and operating the sewer system $133,751.45.

Forestry Division.

I am handing you herewith a statement of work done by this Division during the past year:

Trees Removed—	
By the Division of Forestry	501
By private individuals	256
Total	757
Trees Pruned—	
By the Division of Forestry	3,194
By private individuals	1,501
By Public Service Corporations	2,618
Total	7,313
Trees Sprayed—	
By the Division of Forestry	10,457
Trees Planted—	
By the Division of Forestry	1,612
By private individuals	306
Total	1,918

Municipal Nursery—The entire nursery was transferred from Loch Raven to the new site at Montebello, at a cost of $900.00. The stock planted in the nursery amounts to 6,202. The Forest Tree Nursery established at Montebello for the Water Department now contains 25,450 plants. During the year 1916, 76,500 trees were planted at Loch Raven. In regard to the woodland work, we have supervision over two contracts for removal of all chestnut timber, on which the contractors are now working.

In reference to the forestry work at Back River, specifications have been drawn and contract let for removal of all blighted chestnut poles, and this work done; 60,000 feet B.M. of other timber is to be removed, measured and marked.

Inspection Bureau.

This Division of the Department has been exceedingly active during the past year, owing to the vast amount of work being done by individuals and corporations in the City in advance of improved paving work. The following is a list of the various work under the supervision of this Division:

The Chesapeake & Potomac Telephone Co. constructed in public streets 56,636 feet of conduit. The City is now collecting from the above Company in duct rental the sum of $54,617.79. The data for this work is handled by this Division, and the proper report is made to the Comptroller at the end of each fiscal year, which closes October 31st.

The United Railways and Electric Company did a large amount of repair work and renewals to their tracks and structures during the year. Considerable inspection was necessary over their operations, both day and night, during which time over 7,000 different locations were inspected, exclusive of the 400 preliminary inspections made prior to the issuance of the permits.

The Consolidated Gas Electric Light and Power Co. constructed, in new and renewed service pipes, 470,600 feet; in new and renewed gas mains, 68,700 feet, and in addition did a large amount of work in disconnecting mains and service pipes by changing the location of pipes and in making new connections. We had a very rigid inspection over this work and covered nearly 20,000 different openings made in the public streets, as well as 800 preliminary inspections made before the issuance of the permits in improved streets. A very considerable amount of the repaving was restored by the Sub-Division of Street Repairs upon our paving orders.

The various pole and electric operating companies performed work in the public streets on approximately 2,000 perimts, which covered more than 9,000 different locations. Most of the paving disturbed by the pole-operating compa-

nies is restored by the City, and part by the companies, but in each case a paving ticket is forwarded to the Footway Division for their attention.

During the year this Division supervised the blasting of sewer trenches, tunnels, foundations, embankments, etc., on 49 permits. This Division also issued all permits and certificates of fitness necessary when explosives are handled in any manner whatsoever.

465 permits for the removal of steam rollers, traction engines, etc., as provided for in Ordinance 132, approved July 3rd, 1912, were also issued.

The Baltimore & Ohio Railroad Company did the usual amount of repair work to their tracks and structures in the public streets, as well as the construction of new sidings, under supervision.

The Western Maryland R. R. Co. did considerable amount of repairing and renewal to their tracks and structures in the public streets, under supervision of this Division.

The Philadelphia, Baltimore & Washington R. R. did the usual amount of repair work, as well as construction of sidings, under supervision.

The Pennsylvania Railroad Co. did a large amount of repair work to their tracks, renewal of switches, change of rails and relocation of sidings, during the year, as well as the construction of sidings, under our supervision.

The Terminal Freezing and Heating Co. did the usual amount of repairing to their steam mains and services during the year, also constructed new services, under our supervision.

During the year we have covered a very considerable number of permits issued for the purpose of storing both building and footway material in our improved streets, in order to prevent injury to same. In addition to this, we inspected a large amount of work performed in the public streets on permits of a miscellaneous character. Over 800 complaints,

which arose from blasting, pole work and other causes, were investigated and reported on. During the year a large number of paving tickets were forwarded to each Division for their attention, and practically all of the paving disturbed on permits to corporations, contractors and individuals was replaced by our Street Repair Division, at the expense of the corporations, etc.

About $200.00 in delinquent pole charges was reported to the Collector of Water Rents and Licenses for his information and attention, against various electrical companies in the City.

This Division has earned during the year, over and above the salaries of the Chief Inspector and other Inspectors, approximately $1,200.00.

St. Paul Street.

In connection with the widening of St. Paul street, would say that this Department supervised the razing of buildings; also parked that portion of the widened street between Franklin and Centre streets, installing cement footways, etc.

Municipal Band.

The Municipal Band Concerts were supervised by this Department during the past year, which was the second season of these concerts. These concerts were given six nights a week, and were a greater success than the previous year. The construction of a sounding board, suggested by your Honor, proved very effective and added greatly to these concerts.

In conclusion, I wish to commend the work of all the men in the various Divisions, who have ably handled the vast amount of work of this Department.

Yours very truly,

R. M. Cooksey,
Highways Engineer.

GENERAL INFORMATION.

The total mileage and area of paved and unpaved streets and alleys in the City of Baltimore, corrected to December 31, 1916, is as follows:

Character of Surface.	Streets.		Alleys.		Totals.		Under Guarantee, Sq. Yds.	Under Maintenance, Sq. Yds.	Private Streets Done by Private Parties, Sq. Yds.
	Mileage.	Square Yards.	Mileage.	Square Yards.	Mileage.	Square Yards.			
Alcott's Imp. Pavement	1.35	27,155.20	.....	.....	1.35	27,155.20	.....	27,155.20	.....
Amiesite.	0.20	4,600.00	.....	.....	0.20	4,600.00	.....	4,600.00	.....
Asphalt block.	16.04	405,289.96	3.20	21,649.05	19.24	426,939.01	.....	424,341.51	2,597.50
Bitulithic.	9.39	260,561.11	.....	.....	9.39	260,561.11	.....	260,561.11	.....
Bituminous concrete...	13.62	277,986.00	.....	.....	13.62	277,986.00	263,793.00	14,193.00	.....
Cement surface.....	2.42	25,441.60	17.52	116,191.48	19.94	141,633.08	83,744.48	28,668.00	29,220.60
Cobble stone.	131.72	2,289,118.36	100.19	681,608.56	231.91	2,970,726.92	.....	2,970,036.92	690.00
Granite block.	38.64	901,980.84	1.19	11,980.40	39.83	913,961.24	399,058.93	514,902.31	.....
Macadam (bituminous)	2.94	76,586.15	.....	.....	2.94	76,586.15	.....	76,586.15	.....
Macadam (ordinary)...	31.87	718,398.27	0.27	1,968.80	32.14	720,367.07	.....	719,091.77	1,275.30
Medina block.	0.06	2,039.00	.....	.....	0.06	2,039.00	.....	2,039.00	.....
Scoria block.	0.02	8,987.00	.....	.....	0.02	8,987.00	8,987.00	.....	.....
Sheet asphalt.	125.32	2,500,889.19	0.04	291.09	125.36	2,501,180.28	1,639,518.13	859,171.45	2,490.70
Unpaved.	17.17	306,864.43	16.76	141,478.30	33.93	448,342.73	.....	*448,342.73	.....
Vitrified Block.	47.49	1,192,399.45	6.51	27,611.23	54.00	1,220,010.68	571,686.13	634,919.95	13,404.60
Wood block.	1.62	55,605.17	.....	.....	1.62	55,605.17	17,274.67	38,330.50	.....
Rocmac.	0.21	2,612.00	.....	.....	0.21	2,612.00	.....	2,612.00	.....
Totals.....	440.08	9,056,513.73	145.68	1,002,778.91	585.76	10,059,292.64	2,984,062.34	7,025,551.60	49,678.70

*This figure includes private streets and alleys maintained by Private Parties.

NOTE.—The classification here made is: Where the thoroughfare is paved and curbed and footways provided it is called a street, regardless of its width. All thoroughfares twenty (20) feet wide and under, which are not curbed, paved and provided with sidewalks, are classed as alleys.

Report of P. A. Gibbons, Division Engineer

1916

Highways Engineer's Department,

Sub-Division of Street Repairs and New Paving.

Baltimore, December 30th, 1916.

Mr. R. M. Cooksey, *Highways Engineer.*

Dear Sir—I beg to submit the following report of operations in the Division of Street Repairs and Maintenance during the year 1916:

This comprised the repair and maintenance of all streets, roads and alleys in the City not under a contractor's guarantee (except in cases where a contractor holding such a guarantee failed to obey the Department's order to make repairs, in which case this Division makes them on guaranteed streets), laying new flag and vitrified block crossings, the laying of improved paving under special ordinances, the repaving over trenches opened by various corporations and individuals, including all City Departments; the maintenance and supervision of the City property yards and the readjustment of street intersections where storm-water inlets have been constructed, also the paving of all private alleys with improved paving.

STREETS AND STREET INTERSECTIONS PAVED WITH NEW PAVEMENTS IN 1916.

(Streets in Old City Limits.)

Street.	From	To	Pavement.	Length, Feet.	Area, Sq. Yds.	Guaranteed by Contractor.
Curley st.	N. B. L. Madison st.	242 ft. north	Sheet asphalt.	242	683.29	Balto. A. B. & T. Co.
Lexington st.	W. B. L. Harrison st.	W. B. L. Fallsway	Granite block.	82.6	244.5	Paved by Department.
Madison st.	Point 80 ft. E. of Linwood ave.	75 ft. E. of Curley st.	Vitrified block.	176.6	854.36	Paved by Department.
Montreal st.	E. B. L. Mt. Royal ave.	S. B. L. North ave.	Sheet asphalt.	135.6	585.34	Balto. A. B. & T. Co.
Pearl st.	N. B. L. Louisiana ave.	S. B. L. Saratoga st.	Sheet asphalt.	391.1	1,360.84	Balto. A. B. & T. Co.
Penrose st.	W. C. L. Fulton ave.	119 ft. west	Vitrified block	119.0	476.0	Paved by Department.
Pulaski st.	N. B. L. Franklin st.	S. B. L. Edmondson ave.	Sheet asphalt.	427.5	1,747.07	Balto. A. B. & T. Co.
Pulaski st.	N. B. L. Lexington st.	S. C. L. Saratoga st.	Sheet asphalt.	472.0	1,978.62	Balto. A. B. & T. Co.
St. Mary's ct.	3 ft. E. of E. C. L. Penna. ave.	Seminary Wall	Cement concrete.	103.0	206.0	Paved by Department.
Al. E. of Holliday st.	Saratoga st.	Al. S. of Saratoga st.	Cement concrete.	187.4	204.9	Paved by Department.
Al. S. of Saratoga st.	Holliday st.	Al. E. of Holliday st.	Cement concrete.	97.8	107.0	Paved by Department.
Al. S. of Mosher st.	E. B. L. Etting st.	93.1 ft. east	Vitrified block.	93.1	103.44	Paved by Department.
Al. rear 2-4-6 N. Eutaw st.	S. B. L. Garrett al.	N. B. L. of alley S.	Vitrified block.	108.5	146.67	Paved by Department.
Hudson al.	S. B. L. Oliver st.	110 ft. south	Vitrified block.	110.0	143.62	Paved by Department.
Al. S. of Oliver st.	W. B. L. Hudson al.	128.5 ft. west	Vitrified block.	128.5	303.60	Paved by Department.

†Al. rear 2100 blk. E. Balto. st. and 2100 blk. Moyer st.....	E. B. L. Chester st..	W. B. L. Duncan al...	Vitrified block.	160.0	173.33	Paved by Department.
Branch al..	W. C. L. Morton al..	E. B. L. Cathedral st.	Asphalt block.	125.0	207.7	Paved by Department.
‡China al.	N. B. L. Ostend st..	S. B. L. West st.....	Vitrified block.	332.67	443.5	Paved by Department.
Welsh al.....	S. B. L. Lexington st.	N. B. L. Marion st..	Granite block.	184.0	174.0	Paved by Department.
*Carlos ter.	N. B. L. Federal st..	S. B. L. Lanvale st..	Cement concrete. ...	319.9	692.7	Nichols Bros.
*Lovegrove al.	S. B. L. Lanvale st.	90.3 ft. south.....	Cement concrete. ...	90.3	159.0	Consol. Eng. Co.
*Ropewalk la.	W. B. L. Marshall st.	E. B. L. Race st.....	Cement concrete. ...	985.0	1,346.20	Arundel Const. Co.

*Paved under Private Alley Contract.

†Grading and concreting done in 1915.

‡Paved for Paving Commission.

STREETS AND STREET INTERSECTIONS PAVED WITH NEW PAVEMENTS IN 1916.

(Streets in Annex.)

Street.	From	To	Pavement.	Length, Feet.	Area, Sq. Yds.	Guaranteed by Contractor.
Oak st.	N. B. L. North ave.	S. B. L. 21st st.	Sheet asphalt.	674.3	2,723.4	Paved by Department.
Franklin rd.	W. Md. R. R. bridge	650 ft. north	"Roc-mac"	650.0	1,589.8	Paved by Department.
Carlisle ave.	E. C. L. Hilton st.	E. B. L. Dennison st.	Ordinary macadam	440.0	685.0	Paved by Department.
Hilton st.	S. C. L. Bateman ave.	60 ft. N. Carlisle ave.	Ordinary macadam	502.0	781.0	Paved by Department.
Allendale ave.	N. C. L. Piedmont ave.	N. C. L. Bateman ave.	Ordinary macadam	717.0	956.0	Paved by Department.
Shirley la.	E. C. L. Park Hts. ave.	Shirley's gate.	Ordinary macadam	1,350.0	2,100.0	Paved by Department.
Piedmont ave.	W. B. L. Allendale ave.	W. B. L. Elsinor ave.	Ordinary macadam	300.0	667.0	Paved by Department.
Mine Bank la.	W. C. L. Belair rd.	335 ft. north	Ordinary macadam	335.0	670.0	Paved by Department.
†Woodberry ave.	W. C. L. Railroad ave.	E. C. L. Hooper ave.	Granite block	640.0	476.0	Paved by Department.
Al. S. of 36th st.	E. C. L. Elm ave.	W. B. L. Chestnut ave.	Vitrified block	454.0	504.0	Paved by Department.
*Al. rear of 2900 blk. Evergreen ter.	N. B. L. Edgemont	S. B. L. Ruskin ave.	Cement concrete	154.2	171.3	Slingluff-Browne Co.

*Paved under Private Alley Contract.

†Paved for Commissioners for Opening Streets, partly completed in 1915.

STREETS AND ALLEYS PAVED BY PRIVATE PARTIES.

Street.	From	To	Pavement.	Length, Feet.	Width, Feet.	Square Yards.
Robinson st.	S. B. L. McElderry st.	N. C. L. Jefferson st.	Cement surface.	325	24	866.6
Ellwood ave.	S. C. L. Jefferson st.	N. C. L. Phila. rd.	Cement surface.	524	24	1,397.3
1st al. N. of Laurens st.	E. C. L. Bloomingdale rd.	154 ft. west	Cement surface.	154	27	462.0
1st al. N. of 33rd st.	W. C. L. Abell ave.	343 ft. west	Cement surface.	343	15	571.6
1st al. E. of Poplar Grove st.	S. B. L. Winchester st.	144 ft. south	Asphalt block.	144	12	192.0
1st al. S. of Winchester st.	W. C. L. Dukeland st.	339 ft. west	Asphalt block.	339	10	376.6
1st al. E. of Rosedale ave.	N. C. L. Edmondson ave.	S. C. L. Arunah ave.	Cement surface.	232	10	257.7
1st al. N. of Edmondson ave.	1st al. E. of Rosedale ave.	235 ft. east	Cement surface.	235	10	261.1
1st al. W. of Abell ave.	N. C. L. 32nd st.	S. C. L. 33rd st.	Cement surface.	363	10	403.3
1st al. N. of Montpelier str.	E. B. L. Polk st.	W. B. L. 1st al. W. of Harford ave.	Cement surface.	540	12	720.0
1st al. W. of Harford ave.	S. B. L. Montpelier st.	102 ft. south	Cement surface.	102	15	170.0
1st al. S. of Montpelier st.	W. B. L. 1st al. W. of Harford ave.	121 ft. west	Cement surface.	121	12	161.3
1st al. E. of Ellwood ave.	N. C. L. Philadelphia rd.	S. C. L. Jefferson st.	Cement surface.	543	10	603.3
1st al. S. of McElderry st.	E. C. L. Robinson st.	W. B. L. Loney's la.	Cement surface.	90	10	100.0
1st al. E. of Ellwood ave.	W. C. L. Jefferson st.	243 ft. north	Cement surface.	243	10	270.0
1st al. E. of Harford ave.	N. B. L. 25th st.	70 ft. north	Cement surface.	70	10	77.7
1st al. N. of 25th st.	E. C. L. Harford ave.	500 ft. east	Cement surface.	500	10	555.5
1st al. E. of Harford ave.	N. B. L. Norwood ave.	S. B. L. 25th st.	Cement surface.	152	10	168.8
1st al. N. of Norwood ave.	1st al. E. of Harford ave.	856 ft. east	Cement surface.	856	6	570.6

STREETS AND ALLEYS PAVED BY PRIVATE PARTIES—Continued.

Street.	From	To	Pavement.	Length, Feet.	Width, Feet.	Square Yards.
2nd al. E. of Harford ave.....	N. B. L. Norwood ave..	65 ft. north.....	Cement surface.	65	10	72.2
1st al. E. of Harford ave.....	S. C. L. Norwood ave..	N. C. L. Cliftview ave..	Cement surface.	219	10	243.3
1st al. S. of Norwood ave.....	E. B. L. al. E. of Harford ave.	S. C. L. Norwood ave...	Cement surface.	503.5	10	559.4
1st al. N. of Cliftview ave...	E. B. L. al. E. of Harford ave.	366 ft. north.....	Cement surface.	366	10	406.6
2nd al. E. of Harford ave.....	N. C. L. Cliftview ave.	S. C. L. Norwood ave..	Cement surface.	44	10	48.8
1st al. W. of Wolfe st.....	S. C. L. Cliftview ave.	N. C. L. Darley ave....	Cement surface.	135	10	150.0
1st al. S. of Cliftview ave....	W. B. L. al. W. of Wolfe st.	392 ft. west.....	Cement surface.	392	10	435.5
1st al. S. of Lorette ave.....	N. C. L. Wheeler ave..	E. C. L. Warwick ave..	Cement surface.	394	10	437.7
Latrobe Park terrace.....	S. C. L. Fort ave....	N. C. L. Clemm st.....	Cement surface.	400	16	711.1
Clemm st.	W. C. L. Latrobe Pk. ter.	1st al. west.....	Cement surface.	100	12	133.3
1st al. N. of Mosher st.....	E. B. L. Carey st.....	230 ft. east.....	Cement surface.	230	10	255.5

NEW MACADAM ROADWAYS CONSTRUCTED.

Street.	From	To	Length, Feet.	Width, Feet.	Area, Square Yards.	Cost.	Remarks.
Carlisle ave.	E. C. L. Hilton ave..	E. B. L. Dennison ave.	440	14	685.0	$474.90	Ordinary macadam.
Hilton st.	S. C. L. Bateman ave.	60 ft. W. of Carlisle ave.	502	14	781.0	574.10	Ordinary macadam.
Allendale ave.	N. C. L. Piedmont ave.	W. C. L. Bateman ave.	717	12	956.0	381.90	Ordinary macadam.
Shirley la.	E. C. L. Park Hts. ave.	Shirley's Gate.	1,350	14	2,100	2,194.32	Ordinary macadam.
Piedmont ave.	E. B. L. Allendale ave.	W. B. L. Elsinor ave.	300	20	667.0	587.17	Ordinary macadam.
Mine Bank la.	W. C. L. Belair rd..	335 ft. north.	335	18	670.0	495.70	Ordinary macadam.

COMPARATIVE UNIT PRICES OF LABOR AND MATERIAL FOR DIFFERENT YEARS.

Material.

	1914.	1915.	1916.
Asphalt block, 4x4x12 and 3x5x12	$0.07	$0.07½	$0.06½
Asphalt block, 4x5x12	.07½	.08	.07
Vitrified block, per 1,000, delivered at City Yard	25.50	25.17	....
Vitrified block, per 1,000, f. o. b. Baltimore	23.00	25.64	23.41
Paving sand, per cubic yard	1.06	.98	1.22
Screened sand, per cubic yard	1.10	1.03	1.32

Labor.

Laying cobble stone, per square foot	.044	.045	.044
Laying granite block on sand base, per square foot	.05	.049	.040
Laying granite block on concrete base, including heating and pouring filler and gravel, per square yard	.59*	.62*	.57
Resetting flag stone, per square foot	.12	.115	.11
Redressing flag stone, per square foot	.06	.06	.06
Resetting gutter stone, per lineal foot	.044	.045	.043
Resetting 4½ inch curb, per lineal foot	.16	.15	.15
Dressing 4½ inch curb, per lineal foot	.225	.21	.17
Resurfacing ordinary macadam, per square foot	.025	.025	.021
Repairing with asphalt block on sand base, per square foot	.044	.042	.044
Repairing old vitrified block on sand base, per square foot	.059	.053	.054
Paving new vitrified block on concrete base, grading not included, per square foot	.049	.050	.049
Six inch concrete base (mixed with machine) not including grading, per square foot	.012	.012	.012
Grouting new vitrified block, per square foot	.003	.003	.003

*About three-fourths of area laid was in railway area.

SUMMARY—COST OF STREET REPAIRS.

Class of Work.	Square Yards Repaired.	Amount Expended.	Average Cost Per Square Yard.
Repairs, asphalt block, sand base	37,109	$43,849.22	$1.182
Repairs, asphalt block, concrete base	21,079	28,634.85	1.358
Repairs, vitrified block gutters, concrete base, on asphalt block streets	197.9	492.50	2.50
Repairs, vitrified block, sand base	1,654	1,319.97	.798
Repairs, vitrified block, concrete base	5,061	9,055.14	1.789
Macadam road repairs, ordinary	35,124	13,169.00	.375
Macadam road repairs, bituminous	2,979	2,613.08	.81
Unpaved road repairs	.....	2,626.96	....
Repairs, granite block, sand base	52,785	23,690.47	.448
Repairs, granite block, concrete base	2,668	3,177.53	1.190
Repairs to Alcott's wood wedge block pavement	1,265	1,552.39	1.227
Repairs to Bitulithic streets	400	478.20	1.195
Repairs to bituminous concrete	108	77.32	.716
Repairs to wood block streets	626	1,421.39	2.272

PRIVATE ALLEYS PAVED WITH IMPROVED PAVEMENT IN 1916.

Contract Number.	Number of Alleys.	Pavement.	Length Feet.	Area Sq. Yds.	Unit Price.	Contractor.
1	17	Cement Concrete.	2415.2	2710.7	$.95	Consolidated Engineering Co.
2	19	Cement Concrete.	3193.6	3569.8	.96	Consolidated Engineering Co.
3	35	Cement Concrete.	6171.0	7284.4	1.05	Consolidated Engineering Co.
4	23	Cement Concrete.	3458.7	4462.4	1.12	Consolidated Engineering Co.
5	36	Cement Concrete.	5036.3	7866.7	1.02	Nichols Bros.
6	27	Cement Concrete.	4048.1	4896.9	1.13½	Arundel Construction Co.
7	29	Cement Concrete.	4804.2	5515.8	1.17½	Nichols Bros.
8	32	Cement Concrete.	4336.0	4715.8	1.14½	Slingluff-Browne Co.
9	30	Cement Concrete.	5811.6	6737.8	1.19½	Adams & Co.
10	29	Cement Concrete.	3117.0	3814.3	1.12½	Arundel Construction Co.
11	13	Cement Concrete.	3020.2	4315.0	1.17	Continental Contracting Co.
12	12	Cement Concrete.	1992.4	2315.0	1.179	Slingluff-Browne Co.
13	13	Cement Concrete.	2574.9	2815.0	1.18	Arundel Construction Co.
15	2	Cement Concrete.	494.3	430.0	1.15	Slingluff-Browne Co.
1st Al. S. of 36th St. W. B. L. Chestnut Ave. to E. C. L. Elm Ave.		Vitrified Brick on Concrete..	454.0	504.0		Paved by Department.
Alley rear 2104 to 2120 E. Baltimore St.		Vitrified Brick on Concrete..	160.0	175.3		Paved by Department.
Alley rear 2, 4 and 6 N. Eutaw St. and 3, 5 and 7 N. Paca St.		Vitrified Brick on Concrete..	108.2	143.6		Paved by Department.
Alley S. of Mosher St. E. B. L. Etting St. to 93.1 ft. East..		Vitrified Brick on Concrete..	93.1	103.4		Paved by Department.
Alley rear 47 to 69 W. Oliver St.		Vitrified Brick on Concrete..	110.0	143.6		Paved by Department.
Hudson Alley.		Vitrified Brick on Concrete..	128.5	303.6		Paved by Department.

MAINTENANCE TABLE 1916.

Streets Under Guarantee Are Not Included.

Kind of Paving.	Total Area Square Yards.	Total Area Repaved Square Yards.	Amount Expended.	Cost Per Square Yard Total Area.	Per Cent of Total Area Repaved.	Cost Per Square Yard for Area Repaved.
Amiesite.	4,000	2,780	$2,973.14 a	$0.5380	60.43	$0.8938
Asphalt block.	425,495	58,432	73,995.46 bc	0.1729	13.73	1.2580
Bitulithic.	270,561	828	2,278.32 b	0.0087	0.32	2.7516
Bituminous concrete.	14,193	108	100.29	0.0071	0.76	0.9286
Cement surface.	28,150	103	245.04 d	0.0068	0.37	1.8706
Cobble stone.	3,291,740	31,232	12,070.92	0.0037	0.98	0.3865
Granite block.	503,862	62,084	28,549.12 e	0.0564	12.32	0.4577
Macadam (bituminous).	76,891	308	834.08 f	0.0047	0.40	1.1762
Macadam (ordinary).	727,331	37,343	16,376.53 g	0.0218	5.13	0.4264
Medina block.	2,039	....	.....	.....	....	....
Sheet asphalt.	818,032	28,707	37,731.40 b	0.0449	3.51	1.3143
Unpaved.	498,536	....	2,026.96	0.0052	....	....
Vitrified block.	592,023	7,142	11,515.61	0.0195	1.21	1.6095
Wood block.	38,331	626	1,520.69	0.0397	1.63	2.4292
Wood keys (Alcott's Improved paving).	27,155	1,185	1,553.67	0.0572	4.36	1.3111
RocMac.	1,023	....	.....	.....	....	....

a. 4529 sq. yds. flushing at $.11.
b. Includes installing vitrified brick gutters.
c. 3476 sq. yds. flushing at $.14.
d. 476 sq. yds. flushing at $.11.
e. 711 sq. yds. flushing at $.18.
f. 4289 sq. yds. flushing at $.11.
g. 4108 sq. yds. flushing at $.11.

STATEMENT OF EXPENDITURES.

Alleys Completed, Paved under Contract.

Cement concrete paving, 61,073.0 sq. yds	$64,981.46
Wood block paving, 376.6 sq. yds	1,646.55
Cobble repaving, 519.2 sq. yds	192.33
Stone curb and circles reset, 1,183.7 lin. ft	452.26
Grading, 6,397.5 cu. yds	6,336.17
Hauling	10.23
Extra work	22.90
Advertising	1,181.61
Adjusting manholes	838.34
Blue printing and drafting	1,477.00
Office work and inspection	2,758.47
City Solicitor (searching titles)	1,585.00
	$81,482.32
Old Cobble purchased, 309,510.3 sq. ft	1,534.59
	$79,947.73

STATEMENT OF EXPENDITURES.

Alleys Completed, Paved by Department.

Labor, as per pay roll	$ 1,745.43
Vitrified brick, 54,550	1,201.42
Hauling	113.48
Advertising	57.25
Dumping privilege	4.32
Cement, 900 bags	354.38
Georges Creek coal, 1½ tons	5.21
Concrete gravel, 110.44 cu. yds	140.45
Paving sand, 111.64 cu. yds	161.65
Screened sand, 16.44 cu. yds	18.12
	$ 3,801.71

SHEET ASPHALT, BITUMINOUS CONCRETE AND BITHULITHIC SUMMARY.

Sheet Asphalt and Bitulithic Repairs.

	Sq. Yds.
Ordinary repairs on cobble base	22.00
Ordinary repairs on old concrete base	24,566.14
Ordinary repairs on new concrete base	3,871.33
Private paving and inspection on old concrete base	2,342.23
Private paving and inspection on new concrete base	3,022.95
	33,824.65

Bituminous Concrete Repairs.

Private paving and inspection on old concrete base	710.18
Private paving and inspection on new concrete base	454.52
Private paving and inspection on cobble base	642.39
Ordinary repairs on cobble base	40.58
Ordinary repairs on concrete base	67.34
	1,915.01

Cost of ordinary repairs	$34,141.72
Cost of inspection of ordinary repairs on streets	501.69
Cost of new vitrified block gutters paved on sheet asphalt streets	3,907.02
Cost of concrete curb set	2,410.06
Amount expended on maintenance of bituminous pavements, 1916	$40,960.49
Cost of inspection of private paving on streets	$ 314.12

Private Paving and Inspection.

Work under this heading includes the repaving over trenches, opened by all City Departments, public service corporations and plumbers, on all streets not under a contractor's guarantee. Where a contractor fails to comply with his guarantee, when notified by the Highways Engineer to repave a cut, this Department makes the repairs and charges the responsible party direct. This account also includes repairs, other than cuts to pavements under a contractor's guarantee, where the contractor has failed to comply with a repair notice from the Highways Engineer; the cost thereof being charged to the contractor direct. It also includes all work for public service corporations and City Departments, when requested by them, and a great amount of special work for private corporations and individuals, upon their application, in writing, to this Department.

The work done under this account for the year 1916 amounts to $111,661.53, of this amount $8,852.50 was billed in 1917. A total of 6,934 jobs were handled during the year, distributed as follows: Water Department, 4,357; Electrical Commission, 1,351; Sewerage Commission, 283; Sewer Division, 250; Chesapeake & Potomac Telephone Co., 184; for other City Departments, corporations and private individuals, 509.

A general order was issued to all City Departments making cuts in streets, to backfill the trench, immediately sending the Department an order for the repairs to the paving; a force of five small gangs, composed of a foreman, two laborers, with team, were organized to carry on the work. They rip-rap the trenches, and when same have sufficiently settled, permanent repairs are made by the regular paving gangs. This order went into effect January 1st, 1916.

In addition to the above, the force employed to carry on this work made repairs to streets charged against appro-

priations, as follows: Cobble stone repairs, 76,864 square feet; gutters relaid, 2,224 lineal feet; granite block on sand base, 6,685 square feet; curb reset, 635 lineal feet; flag stone reset, 1,174 square feet; asphalt block, on sand base, 11,644 square feet; vitrified block on sand base, 2,218 square feet; vitrified block on concrete base, 4,725 square feet; wood block on concrete base, 4,494 square feet; concrete surface, 106 square feet; brick footways repaved, 10,981 square feet; cinders hauled, 347 loads; refuse hauled, 541 loads. Cost: Labor, $6,877.46; Material, $1,905.87.

A very large part of the above work, charged to the appropriation of this Department, was in connection with the repairs over trenches and cuts, where it was not practical to confine the repaving to the areas allowed by the Department making the cut.

The following table shows the amount of work done under new paving rates:

Class.	Square Yards.	Amount Charged.
Sheet asphalt	321.74	$1,913.79
Granite block	397.42	2,384.52
Vitrified block	453.73	2,467.22
Asphalt block	162.01	765.08
Wood block	12.07	72.42
Macadam	576.93	1,802.31
Oak keys and granite block	13.43	80.58
Cement concrete	3.22	19.32
Total		$9,505.24

Property and Storage Yards.

ROGERS AVENUE YARD.

The force employed at this yard consists of the following: One superintendent, one assistant superintendent, one clerk, one machinist, one blacksmith, one blacksmith's helper, one emergency wagon and horse.

An average of fourteen laborers were carried on the payroll.

The number of emergency jobs, due to reports from the Police Department, Bureau of Complaints and others, attended to from this yard, was 600. Lights were placed and maintained on 1210 emergency calls and turned over to other contractors, foremen and departments.

There were 7,308 loads of materials and tools received at this yard and 10,839 loads of materials and tools distributed from this yard during the year 1916.

This yard furnished the Engineering Department rodmen on 278 days. Men were sent to receive and tally vitrified brick, granite block, wood blocks, wood wedges and cement on 187 days. Foremen were furnished men for emergency work on 391 days, various yards and others were furnished men on 299 days.

Permits were issued at night as follows: Consolidated Gas Electric Light and Power Co., 83; Water Department, 50; United Railways and Electric Co., 5; Kiosk, 1.

Laborers repaired and repainted steam rollers Nos. 1, 2, 3 and 4; street sweeper; tar boilers Nos. 1, 2, 3, 4, 5, 6 and 7; concrete mixers Nos. 1, 2, 3 and 4; dump wagons Nos. 1 and 2; dump wagon No. 3 rebuilt; water wagons 1 and 2; oil wagon; horizontal boiler on wheels; combination gravel and tar heater; mounted gravel heaters No. 1 and 2; tool boxes; grout boxes and small tools of every description.

The equipment of the yard was increased by one air compressor machine and three air guns, also one "Climax" road grader, 2 horse. In the machine shop the following articles were installed: One "Century" electric motor, 7½ horsepower; one South Bend lathe and attachments; one mounted emory grinder and wheels; one mounted grind stone, shafting, belting, pullies and small tools.

After deducting the men furnished on outside work, the number of men actually working in this yard during the year 1916, averaged 6 per day.

Municipal Band Concerts.

The second season of the Municipal Band Concerts, supervised by this Department, was in every sense of the word a greater success than in 1915. The large number of requests from Improvement Associations and others in all parts of the City, for these concerts in their locality, evidencing the great interest our citizens take in this form of amusement. The same arrangements of the concerts were adhered to, as in the previous year, namely, one hour and a half for the concert and one hour for dancing. It was found necessary to alternate the dances in order to protect the small children, the large number of adults, availing themselves of this amusement, crowding out the children, and as a matter of protection, children under fourteen years were given every other dance, therefore, it was a regular nightly occurrence to see five hundred little ones in this innocent pleasure. The concerts were given six evenings a week: Monday at the Recreation Pier; Tuesday and Friday on the Court House Plaza; Wednesday on the Fallsway; Thursday, Philadelphia Avenue and Luzerne Street; Saturday, Patapsco and Ostend Streets.

There were three community singing concerts held at Washington Square, during the season, and the attendance was much larger than in 1915. The band played the air of the songs, the words being thrown on a screen so that every one could read them and join in the singing. Moving pictures, of current events in our City, were also displayed, also films of an educational value to the people, such as sanitary conditions, pure milk and hygiene. Souvenir programs were distributed to the audience, with the words of our City anthem, "Baltimore, Our Baltimore," printed on them.

The season opened on May 28th and closed September 12th, with a grand concert at Washington Square, in commemoration of the Battle of North Point. A moving picture, "The Birth of the Star-Spangled Banner" was shown, which was highly appreciated by the immense audience. Washington's Monument was illuminated with colored fire, and a salute of thirteen bomb sheets, representing the thirteen original states, was fired.

The portable band stand was handled in the same manner as in 1915, and in connection with this stand would say we have received a number of requests from other cities as to the construction and method of handling this stand. His Honor, Mayor James H. Preston, who originated the idea of a band of this character, suggested that a sounding board be added to this stand, which sounding board proved very effective. Chairs were rented to the audience at five cents each, and receipts from this amounted to $466.90.

STATEMENT OF EXPENSES.

Labor, as per pay roll	$926.30
Repairs to band wagons	49.50
Carbide	138.75
Moving picture machine and operator hire	110.50
Hauling	39.85
Printing programs	65.00
Sounding board	265.00
Hardware, etc.	15.61
Paints, oils and brushes	13.65
Lumber	14.00
Colored fire	23.85
Chairhire	80.00
Chain fall	26.40
Repairs to curtain	5.00
Photographs	7.10
Music stand	4.25
Flags	2.94
Electric current	1.62
Freight on calcium chloride	2.23
Special chairs	58.00
Supervision	100.00
	$1,949.55

RECEIPTS.

Sale of seats	$466.90

OILING.

STATEMENT OF EXPENDITURES—LAYING DUST AND PRESERVING MACADAM ROADS.

Labor, as per pay rolls	$4,153.74
Road oils	3,986.42
Paving sand	1,969.67
Barber asphalt oil	389.50
Texas oil	255.63
Demurrage	49.00
Bituminous coal	93.95
Coal oil and gasoline	30.38
Cylinder brooms	13.00
Analyses of road oil and binder	15.00
Hauling	45.09
	$11,001.38

SUMMARY OF STREETS OILED.

Total yardage, 1915	319,319
Total yardage, 1916	273,693
Decrease (square yards)	45,626
Total length, 1915	121,609
Total length, 1916	95,501
Decrease (lineal feet)	26,108
Total mileage, 1915	23.03
Total mileage, 1916	18.08
Decrease (miles)	4.95

Respectfully submitted,

P. A. GIBBONS,

Division Engineer.

Report of J. W. Ogier, Assistant Engineer

1916

Highways Engineer's Department,

Sub-Division of Bridges and Grades.

Baltimore, February 20, 1917.

Mr. R. M. Cooksey, *Highways Engineer.*

Dear Sir—I beg to submit the following as the Annual Report covering the activities during the year 1916 of the Division of Bridges and Grades:

Inspection and Maintenance of Improved Pavements Under Guarantee.

On January 1st, 1917, the pavements under guarantee and in the control of this Department constituted 3,000,298.19 square yards, with a total length of 152.50 miles, as against 2,740,589.17 square yards, with a length of 133.76 miles on January 1st, 1916.

During the year the guarantee expired on 65,605.80 square yards with a mileage of 3.05. The amount received for maintenance from all sources during the year was 325,314.82 square yards, with a length of 15.69 miles.

Grade Establishments.

Grade establishments to the number of 107 were requested by this Department, checked upon receipt from City Surveyor, the profiles plotted and records completed.

The number of squares established was 174 and the total length equals 67,055.80 lineal feet.

As evidenced again this year, a source of much expense to the city and to innocent abutting property-owners involved, is the legal insufficiency of the existing laws to cover cases where owners develop property and entirely disregard grade establishments in cases of private streets. Legislation should be enacted compelling compliance with grades as established.

The city should also refuse to permit installation of conveniences until streets are properly graded in conformity with the recorded established grade. I would recommend that when the construction of a new street is finished, the grade be immediately established legally in agreement with the work as built, if there has never been an establishment made, and if the design of the street departs from an existing grade, a re-establishment should be requested. This is, in my opinion, essential to safeguard the city's rights and validate action taken to compel property-owners to adjust footways.

If this policy is not adopted now and existing discrepancies adjusted, the grade records of this office will eventually be invalidated in many cases, and can only be used with extreme uncertainty for a reference or for design of structures to be erected along streets affected. The cost involved is small, and I think any agency or interests should be required to comply as outlined above and also assume the expense of establishment.

There being no fund allotted for the provision of charges during the year account of the establishment and re-establishment of grades, we were obliged to charge same including advertising costs to the "Emergency Fund," by permission of the Board of Estimates.

In lieu of the fee system as heretofore maintained regarding the payment for services rendered by the City Surveyor

account establishing or re-establishing grades, arrangement was made by the Board of Estimates to handle same on a straight salary basis.

However, deposits received during the year account grades were credited to "Grade Establishments."

A statement of these expenditures and credits are as follows:

EXPENDITURES.

For plans and tracings	$111.85	
For advertising	264.24	
		$376.09

CREDITS.

Received from applicants for establishments	$254.23

MAINTENANCE AND REPAIRS OF BRIDGES AND CULVERTS.

The work done during the year on the different bridges is given below:

ARGYLE AVENUE BRIDGE.

The entire wooden floor system of this bridge was renewed including stringers, top and bottom floor on the roadway, also stringers and floor on the footways. The portion of the footways directly over the railroad track was tongued and grooved material. The handrailing along the building line was entirely rebuilt.

Charged to: Maintenance of Bridges & Culverts..... $445.81

ASHTON STREET BRIDGE.

Minor repairs were made to this culvert including guard fences at ends.

Charged to: Maintenance of Bridges & Culverts..... $18.26

BENTALOU STREET BRIDGE.

The entire iron work of this bridge was painted with one coat of Oxide and one coat of Carbon Base Black Ironhide after the Aetna paint had been removed. The new work which was installed when bridge was built including longitudinal floor beams and hangers which suspend transverse floor beams was given two coats of Oxide and one coat of Carbon Base Black. Other minor repairs were made.

Charged to: Maintenance of Bridges & Culverts..... $1,698.48

BIDDLE STREET BRIDGE.

Minor repairs were made on this bridge.

Charged to: Maintenance of Bridges & Culverts..... $9.88

BRUNSWICK STREET BRIDGE.

A portion of the top floor was relaid about 100 feet from the south end. Other minor repairs were made.

Charged to: Maintenance of Bridges & Culverts..... $755.95

BUSH STREET CULVERT.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $313.92

CALVERT STREET BRIDGE.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $15.44

CEDAR AVENUE BRIDGE.

Cleaning and painting ironwork under-floor from west end including span over the Northern Central Railroad tracks, also hand and guardrailing. The span over the railroad was given two coats of Oxide and one of Carbon Base Black

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
61	†Alley east of Central avenue	S. B. L. Bank street	N. B. L. Eastern avenue	Granite blocks	303.20	40.41	334.79		$1.62	Southern Pav. & Const. Co.	Oct. 14, 1919.
	‡Alley south of Park terrace	E. B. L. Brookfield avenue	W. C. L. Lakeview avenue	Vitrified blocks	323.00	15.00	537.00		2.53	Union Paving Co.	Nov. 11, 1919.
	Alley between Brookfield and Lakeview avenues	N. C. L. Whitelock avenue	Alley south Park Terrace	Vitrified blocks	699.00	20.00	1,545.00		2.53	Union Paving Co.	Nov. 11, 1919.
	‡Alley between Mount Royal Terrace and Park avenue	S. B. L. Newington avenue	320 ft. southwardly	Vitrified blocks	320.00	14.00	507.00		2.53	Union Paving Co.	Nov. 11, 1919.
	‡Alley between Powhatan and Fairview avenues	E. B. L. Callaway avenue	W. B. L. Grantley avenue	Vitrified blocks	660.00	13.00	960.00		2.50	Balto. A. B. & Tile Co.	Nov. 27, 1919.
	‡Alley between Fairview and Springdale avenues	E. B. L. Callaway avenue	W. B. L. Grantley avenue	Vitrified blocks	661.00	13.00	902.00		2.50	Balto. A. B. & Tile Co.	Nov. 27, 1919.
	Alley between Forest and Springdale avenues	E. B. L. Callaway avenue	W. B. L. Grantley avenue	Vitrified blocks	664.00	13.00	912.00		2.50	Balto. A. B. & Tile Co.	Nov. 27, 1919.
120	‡Alley south of Monument street	E. B. L. Howard street	Tyson street	Vitrified blocks	188.50	14.20	319.19		2.10	M. J. Beach	Nov. 17, 1920.
97	‡Alley west of Calvert street	N. B. L. Dark Lane	S. B. L. Beaufort alley	Old gran. blk.	147.95	20.00	324.79		1.42	P. F. Reddington	July 7, 1920.
96	†Alley north of Madison street	E. B. L. Lovegrove alley	W. B. L. St. Paul street	C'm't concrete.	201.20	9.70	241.75		1.13	Home Cement Works	June 30, 1920.
124	‡Alley south of Eager street	E. B. L. Lovegrove alley	W. B. L. St. Paul street	C'm't concrete.	185.50	10.03	206.68		1.25	Patrick T. Kavanaugh	Dec. 8, 1920.
134	‡Alley south of Read street	E. B. L. Cathedral street	W. B. L. Morton alley	C'm't concrete.	150.60	13.40 16.40	238.76			P. F. Reddington	Nov. 1, 1921.
1	*Alleys (Private)			C'm't concrete.			2,710.00		.95	Consolidated Engr. Co.	June 14, 1921.
2	Alleys (Private)			C'm't concrete.			3,569.80		.96	Consolidated Engr. Co.	June 2, 1921.
3	*Alleys (Private)			C'm't concrete.			7,284.40		1.05	Consolidated Engr. Co.	Aug. 26, 1921.
4	*Alleys (Private)			C'm't concrete.			4,462.50		1.12	Consolidated Engr. Co.	Oct. 13, 1921.
5	*Alleys (Private)			C'm't concrete.			7,867.00		1.02	Nichols Bros. Inc.	Aug. 13, 1921.
6	*Alleys (Private)			C'm't concrete.			4,897.00		1.135	Arundel Const. Co.	Sept. 7, 1921.
7	*Alleys (Private)			C'm't concrete.			5,516.00		1.175	Nichols Bros. Co.	Nov. 10, 1921.
8	*Alleys (Private)			C'm't concrete.			4,716.00		1.145	Slingluff-Browne Co.	Oct. 30, 1921.
9	*Alleys (Private)			C'm't concrete.			6,737.80		1.195	Adams & Company	Dec. 8, 1921.
10	*Alleys (Private)			C'm't concrete.			3,814.00			Arundel Constr. Co.	Oct. 21, 1921.
	‡Abell avenue	N. B. L. Thirtieth street	S. B. L. Thirty-third street	Sheet asphalt	1,093.00	39.60	4,803.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
	‡Adams street	W. B. L. Homewood avenue	S. B. L. Bartlett avenue	Sheet asphalt	367.00	24.00	1,092.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
	Aisquith street	N. C. L. Chase street	S. B. L. North avenue	Sheet asphalt	2,842.70	35.62	11,744.00	$1.87	1.59 1.73 .79	Elder Pav. & Contr. Co.	Jan. 15, 1918 (112).
84	Aisquith street	N. C. L. Baltimore street	S. B. L. Lexington street	Vitrified blocks	1,239.40	40.41	7,478.35	2.32 3.50	2.24	George Long Contr. Co.	Oct. 14, 1919 (152).
	Aisquith street	S. C. L. Orleans street	N. B. L. Monument street	Vitrified blocks	1,165.15	35.39	4,731.16	2.08	2.08	David M. Andrew Co.	Feb. 12, 1918 (113).
	Aisquith street	N. B. L. Monument street	N. B. L. Ashland avenue	Sheet asphalt	761.65	35.12	3,143.31	2.35	1.74 .78	Filbert Pav. & Constr. Co.	Aug. 27, 1918 (10).
143	‡Alameda	W. C. L. Harford Road	110 ft. N. of 28th street	Sheet asphalt	1,341.00	2 (26)	9,052.00		1.25 1.90	American Paving Co.	Sept. 14, 1921.
	Allendale street	S. B. L. Windsor Mill Road	N. C. L. Clifton avenue	Sheet asphalt	650.40	24.00	1,769.00		1.59	F. E. Schneider Pav. Co.	Oct. 15, 1917.
	‡Allendale avenue	N. B. L. Duvall avenue	S. B. L. Woodland avenue	Sheet asphalt	453.00	24.00	1,215.00		1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
55	‡Andre street	N. B. L. Fort avenue	S. B. L. Marriott street	Vitrified blocks	1,493.00	39.15	6,348.65		2.21	P. F. Reddington	May 27, 1919.
112	†Arlington avenue	N. B. L. Lexington street	S. B. L. Lanvale street	Sheet asphalt	2,537.15	38.78	10,221.52	3.25	1.38 1.49 2.04	P. Flanigan & Sons	Sept. 8, 1920 (243).
112	†Arlington avenue	N. B. L. Lafayette avenue	W. B. L. Fremont avenue	Sheet asphalt	933.00	38.63	4,012.49		1.38 2.05	P. Flanigan & Sons	Sept. 8, 1920.
141	‡Auchentoroly Terrace	175 ft. northeast of Holmes avenue	E. C. L. Penna. avenue	Sheet asphalt	745.00	32.00	3,398.00			P. Flanigan & Sons	Sept. 27, 1921.
142	‡Arunah avenue	E. B. L. Rosedale street	W. B. L. Longwood street	Sheet asphalt	507.00	30.00	1,661.00		1.32	P. Flanigan & Sons	May 27, 1921.

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
124	‡Arunah avenue	W. B. L. Bentalou street	W. B. L. Warwick avenue	Bit. concrete	875.70	39.60	4,114.00	.....	1.65 2.25	Balto. A. B. & Tile Co.	Jan. 13, 1919 (150).
67	‡Ashland avenue	E. B. L. Aisquith street	W. B. L. Broadway	Sheet asphalt	1,848.28	39.53	7,696.60	1.62 2.23 3.25	1.62 2.19	Southern Pav. & Const. Co.	Sept. 2, 1919 (159,168).
112	‡Ashland avenue	E. B. L. Broadway	W. B. L. Chester street	Sheet asphalt	2,063.50	39.12	8,406.04	3.25	1.38 1.49 2.04	P. Flanigan & Sons	Sept. 8, 1920.
141	‡Auchentoroly Terrace	175 ft. northeast of Holmes avenue	E. C. L. Penna. avenue	Sheet asphalt	745.00	32.00	3,398.00	.....	1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
	‡Augusta avenue	N. B. L. Frederick Road	S. C. L. Old Frederick Road	Bit. concrete	1,563.00	40.00	6,850.00	.....	1.24	Eastern Paving Co.	Dec. 19, 1919.
	‡Baker street	W. C. L. Poplar Grove street	E. B. L. Hilton street	Sheet asphalt	1,810.00	30.00	6,804.00	.....	1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
	‡Balderston street	W. B. L. Light street	E. B. L. Charles street	Granite blocks	311.15	24.60	858.83	.....	3.49	P. F. Reddington	Jan. 15, 1918.
	‡Balderston street	E. B. L. Bowley Lane	W. B. L. South street	Sheet asphalt	138.75	20.70	320.17	.....	1.53 2.25	Balto. A. B. & Tile Co.	Dec. 15, 1920 (281).
88	‡Baltimore street	W. B. L. Fremont street	W. B. L. Liberty street	Sheet asphalt	3,039.15	39.10	12,979.13	2.28 2.85 3.95	2.14	Union Paving Co.	Oct. 11, 1919 (181).
147	‡Baltimore street	W. B. L. Garrison Lane	Ellicott Driveway	Sheet asphalt	1,060.00	40.00	4,888.00	.....	1.59 2.20	P. Flanigan & Sons	Dec. 29, 1921.
136	‡Baltimore street	W. B. L. Bentalou street	W. B. L. Fulton avenue	Sheet asphalt	2,171.75	38.98	9,557.77	2.60 1.62	1.53 2.20	Balto. A. B. & Tile Co.	Nov. 22, 1921 (302).
128	‡Baltimore street	E. B. L. Fulton avenue	W. B. L. Fremont avenue	Sheet asphalt	4,487.42	38.96	20,323.02	2.45 1.53	1.45 2.05	Balto. A. B. & Tile Co.	Aug. 23, 1921 (296).
	‡Baltimore street	W. B. L. Liberty street	E. B. L. Market Place	Sheet asphalt	3,632.00	39.60	14,781.54	1.48 2.95	1.43 1.95	Union Paving Co.	Sept. 24, 1919.
107	‡Baltimore street	W. B. L. Front street	W. B. L. Broadway	Sheet asphalt Granite blocks	2,993.15	41.00	12,732.13	2.11 1.65	1.65 2.17	American P. & Contr. Co.	June 14, 1920 (275).
141	‡Barclay street	N. B. L. 27th street	S. B. L. 29th street	Sheet asphalt	853.00	39.60	4,283.00	.....	1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
74	‡Barclay street	N. B. L. Oliver street	S. B. L. North avenue	Sheet asphalt	1,583.65	38.60	6,064.40	.....	1.55 2.25	American P. & Contr. Co.	Sept. 24, 1919 (158).
	‡Barclay street	N. B. L. 26th street	N. B. L. 27th street	Sheet asphalt	500.00	39.00	2,366.00	.....	1.65	P. Flanigan & Sons	Oct. 15, 1919.
	‡Barclay street	N. B. L. 30th street	S. B. L. 33rd street	Sheet asphalt	1,094.00	39.60	4,853.00	.....	1.65	P. Flanigan & Sons	Oct. 15, 1919 (196).
	‡Barre street	E. B. L. Sharp street	E. F. R. Charles street	Granite blocks	751.30	38.95	3,245.40 174.10	3.34	3.09	N. A. Middleton & Co.	July 23, 1918 (136).
	‡Bartlett avenue	E. B. L. Montebello avenue	W. B. L. Taylor street	Sheet asphalt	1,056.00	24.00	2,800.00	.....	1.65	P. Flanigan & Sons	Oct. 15, 1919.
	Bateman avenue	E. B. L. Garrison avenue	W. B. L. Denison street	Sheet asphalt	549.00	29.00	1,784.00	.....	1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
82	‡Bath street	E. B. L. Guilford avenue	W. B. L. Fallsway	Granite blocks	295.25	34.21	983.46	.....	2.45	James Quinn	Sept. 30, 1919 (164).
72	‡Battery avenue	S. B. L. Montgomery street	N. B. L. York street	Granite blocks	534.55	44.00	2,846.18	.....	2.52	Consolidated Engr. Co.	July 15, 1919 (174).
73	‡Battery avenue	N. B. L. Gittings street	S. B. L. Cross street	Sheet asphalt	1,043.30	34.78	4,029.43	2.30	1.60	American P. & Contr. Co.	Jan. 27, 1920 (220).
73	‡Battery avenue	N. B. L. Hamburg street	S. B. L. Montgomery street	Sheet asphalt	492.60	39.40	2,270.17	.....	1.60 2.30 2.22	American P. & Contr. Co.	Jan. 27, 1920 (221).
114	‡Beason street	E. B. L. Haubert street	W. B. L. Hull street	Sheet asphalt	161.85	39.10	646.02	.....	1.40 2.00	P. Flanigan & Sons	Sept. 29, 1920.
97	‡Beaufort alley	E. B. L. Courtland street	N. B. L. Calvert street	Granite blocks	221.55	11.64	296.63	.....	1.42	P. F. Reddington	July 7, 1920.
132	‡Beech avenue	E. C. L. Garrison avenue	E. B. L. Denison street	Sheet asphalt	604.00	2 (26)	4,139.00	.....	1.60	Balto. A. B. & Tile Co.	April 1, 1920.
	‡Belle avenue	W. C. L. Garrison avenue	Western City Limits	Bit. concrete	1,604.00	30.00	5,393.00	.....	1.35	F. E. Schneider Pav. Co.	Oct. 15, 1917.
	Belmont avenue	W. C. L. Poplar Grove street	W. C. L. Rosedale street	Sheet asphalt	999.00	32.00	3,023.00	.....	1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
141	‡Belmont avenue	W. C. L. Harford Road	E. B. L. Aisquith street	Sheet asphalt	682.00	30.00	2,472.00	.....	1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
112	‡Bennett Place	E. B. L. Arlington avenue	W. B. L. Fremont avenue	Sheet asphalt	917.65	27.93	2,863.50	1.49 3.25	1.38 1.49 2.04	P. Flanigan & Sons	Sept. 8, 1920 (244).
	‡Bentalou street	S. B. L. North avenue	N. B. L. Presbury street	Bit. concrete	613.00	40.00	2,067.00	.....	1.24	F. E. Schneider Pav. Co.	Aug. 12, 1918.
	‡Bentalou street	N. B. L. North avenue	N. B. L. Clifton avenue	Sheet asphalt	772.00	39.70	3,576.00	.....	1.68	Union Paving Co.	Nov. 11, 1919.
	‡Bentalou street	N. C. L. Edmondson avenue	S. B. L. Presbury street	Sheet asphalt	3,408.00	40.00	16,615.00	.....	1.68	Union Paving Co.	Nov. 11, 1919.
159	*Bentalou street	43.3 ft. north of W. M. R. R. Branch	168 ft. N. of Bridge	Sheet asphalt	124.70	37.30	516.35	.....	1.67	Balto. A. B. & Tile Co.	Sept. 9, 1920 (283).
159	*Bentalou street	33.4 ft. south of W. M. R. R. Branch	110.2 ft. S. of Bridge	Sheet asphalt	76.80	37.30	318.29	.....	1.67	Balto. A. B. & Tile Co.	Sept. 9, 1920 (283).
133	‡Bentalou street	N. B. L. Baker street	147 ft. S. of Presstman	Sheet asphalt	721.00	39.60	3,252.00	.....	1.68	Union Paving Co.	June 12, 1920.
	‡Bernard street	N. B. L. 26th street	S. B. L. 30th street	Bit. concrete	1,338.00	24.00	3,143.00	.....	1.45	P. Flanigan & Sons	Sept. 25, 1918 (46).

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
	‡Berry street	E. B. L. Elm street	W. B. L. Chestnut avenue	Vitrified blocks	484.30	12.50	703.00		2.07	P. Flanigan & Sons	Feb. 26, 1918.
116	‡Bethel street	N. B. L. Baltimore street	S. B. L. Fairmount avenue	Granite blocks	332.30	11.75	445.01		.90	I. J. Smith & Co. Inc.	Nov. 17, 1920 (265).
40	‡Bethel street	N. B. L. Lancaster street	S. B. L. Pratt street	Vitrified blocks	1,740.30 299.40	12.00 16.00	2,910.56		2.11	Standard Contr. Co.	Mar. 11, 1919 (99).
103	‡Biddle street	E. B. L. Shields Place	W. B. L. Brevard street	Sheet asphalt	3,715.60	37.78	14,790.56	3.45 1.53	1.53 2.20	Balto. A. B. & Tile Co.	Sept. 29, 1920 (270).
51	‡Biddle street	E. B. L. Maryland avenue	W. B. L. St. Paul street	Bit. concrete	718.60	38.90	3,234.51	2.25	1.38 2.20	F. E. Schneider Pav. Co.	Oct. 8, 1918 (132).
90	‡Biddle street	E. B. L. Guilford avenue	P. R. R. Bridge	Sheet asphalt	80.45	39.45	352.25		1.63 2.30	D. M. Andrew & Co.	Jan. 6, 1920 (281).
51	‡Biddle street	E. B. L. Cathedral street	W. B. L. Maryland avenue	Sheet asphalt	206.70	38.50	843.23	1.85 2.25	1.85 2.25	F. E. Schneider Pav. Co.	Oct. 8, 1918 (147).
	‡Biddle street	E. C. L. Bond street	W. B. L. Broadway	Vitrified blocks	462.55	39.50	2,095.23		1.93	David M. Andrew Co.	Dec. 27, 1917.
	‡Biddle street	East side Jones Falls	E. B. L. Bond street	Sheet asphalt	3,907.45	39.35	18,319.43	2.29	**.79	Elder Pav. & Contr. Co.	Jan. 15, 1918 (114).
	‡Biddle street	E. B. L. Calvert street	W. B. L. Guilford avenue	Sheet asphalt	304.00	39.55	1,377.70		1.55	Balto. A. B. & Tile Co.	Dec. 31, 1918.
116	‡Block street	E. B. L. Dock street	W. B. L. Caroline street	Granite blocks	1,212.00	28.63	3,604.84	1.10	1.10	I. J. Smith & Co. Inc.	Nov. 17, 1920 (265).
	‡Bloom street	E. B. L. Penra. avenue	W. B. L. Eutaw street	Sheet asphalt	1,565.00	39.46	7,268.30		1.55	Balto. A. B. & Tile Co.	Dec. 31, 1918 (62).
	*Bloomingdale Road	N. B. L. Brighton street	94.60 ft. N. of N. B. L. of Brighton street	Sheet asphalt	94.60	20.40	220.93		1.78	Balto. A. B. & Tile Co.	June 26, 1920 (283, 159).
	‡Bolton street	N. C. L. Hoffman street	S. B. L. Lafayette avenue	Sheet asphalt Vitrified blocks	1,162.30	38.70	5,186.10 102.66	2.20	.80	F. E. Schneider Pav. Co.	Jan. 15, 1917.
	‡Bolton street	N. B. L. Lafayette avenue	S. B. L. North avenue	Bit. concrete	1,963.13	38.83	8,676.17		1.45	Elder Pav. & Contr. Co.	Feb. 12, 1918 (115).
	‡Bond street	N. B. L. Gay street	S. B. L. Biddle street	Granite blocks	619.24	41.80	2,965.95		2.98	Cunningham P. & C. Co.	Dec. 6, 1917 (103).
	‡Bond street	N. B. L. Biddle street	S. B. L. North avenue	Sheet asphalt	2,651.70	41.92 30.10	11,261.00		**.79	Elder Pav. & Contr. Co.	Jan. 15, 1918 (83).
	‡Bond street	N. B. L. Madison street	S. B. L. Gay street	Sheet asphalt	953.00	42.10	4,804.51		1.74	Filbert Pav. & Contr. Co.	Aug. 27, 1918 (9).
170	‡Bond street	N. B. L. Eastern avenue	S. B. L. Baltimore street	Sheet asphalt	2,211.90	40.75	9,479.33	3.75	1.62 2.35	Southern Pav. & Const. Co.	Oct. 21, 1919 (254).
91	‡Bowley street	N. B. L. Lombard street	S. B. L. Water street	Granite blocks	108.90	17.50	211.75		1.38	Curry-Quinn Co.	Apr. 14, 1920.
126	‡Braddish avenue	S. B. L. North avenue	N. B. L. Baker street	Sheet asphalt	1,072.00	24.00	2,849.00		1.65 2.29	American P. & Contr. Co.	Feb. 18, 1919.
96	‡Branch alley	E. B. L. Charles street	W. B. L. St. Paul street	C'm't concrete	352.25	13.61	617.92		1.13	Home Cement Works	June 30, 1920.
136	‡Brantley avenue	E. B. L. Arlington avenue	W. B. L. Schroeder street	Sheet asphalt	354.50	30.15	1,186.57		1.53 2.20	Balto. A. B. & Tile Co.	Nov. 22, 1921.
123	‡Breidenbaugh alley	N. B. L. Saratoga street	Fallsway	Vitrified blocks	201.20	18.75	414.25		2.05	Geo. Long. Contr. Co.	Apr. 12, 1921.
	‡Brentwood avenue	N. B. L. Biddle street	S. B. L. Preston street	Vitrified blocks	80.65 250.15	39.45 48.90	1,778.04	2.11	2.11	Standard Contr. Co.	Mar. 11, 1919.
	‡Brevard street	N. B. L. Dolphin street	W. C. L. Cathedral street	Sheet asphalt Vitrified blocks	1,219.25	35.85	3,015.50 2,175.70	1.70	2.20	F. E. Schneider Pav. Co.	Sept. 11, 1917.
86	‡Brevard street	N. B. L. Dolphin street	S. B. L. Lafayette avenue	C'm't concrete	707.60	11.95	935.20		1.20	David M. Andrew Co.	Sept. 24, 1919 (176).
66	‡Brevard street	N. B. L. Mosher street	S. B. L. Wilson street	Vitrified blocks	665.05	14.44	1,246.13		2.24	Patrick F. Reddington	July 29, 1919 (175).
93	*Brexton alley	W. B. L. Park avenue	S. B. L. Howard street	Sheet asphalt	226.25	11.83	297.53		1.49 2.14	Southern Pav. & Const. Co.	Dec. 23, 1920 (225).
	‡Brighton street	W. B. L. Poplar Grove street	W. B. L. Rosedale street	Sheet asphalt	1,005.00	28.00 32.00	3,781.00		1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
	Broadway (east side)	S. B. L. Gough street	N. B. L. Canton avenue	Sheet asphalt	800.00	15.00 40.00	3,000.00		.93	Filbert Pav. & Const. Co.	Feb. 12, 1918 (129).
	‡Brookfield avenue	N. B. L. Whitelock street	Park terrace	Sheet asphalt	900.00	30.00	3,021.00		1.68	Union Paving Co.	Nov. 11, 1919.
	‡Brooks Lane	E. B. L. Linden avenue	W. B. L. Brookfield avenue	Sheet asphalt	571.00	24.00	1,661.00		1.68	Union Paving Co.	Nov. 11, 1919.
	‡Buren street	N. B. L. Madison street	N. B. L. Truxton street	Vitrified blocks	593.40	24.65 33.60	2,219.37		2.11	P. F. Reddington	Aug. 20, 1918.
66	‡Buren street	N. B. L. Truxton street	S. B. L. Eager street	Vitrified blocks	239.10	36.00	955.48		2.24	P. F. Reddington	July 29, 1919 (152).
	‡Callow avenue	N. B. L. North avenue	S. B. L. Whitelock street	Sheet asphalt	1,336.00	39.60	3,677.00		1.68	Union Paving Co.	Nov. 11, 1919.
114	‡Calloway avenue	N. B. L. Garrison avenue	S. B. L. Liberty Hgts. avenue	Bit. concrete	1,318.00	30.00	4,463.00		1.58 2.15	Balto. A. B. & Tile Co.	May 18, 1919 (149).
78	‡Calhoun street	N. B. L. Baltimore street	S. B. L. Edmondson avenue	Sheet asphalt	2,284.15	39.07	9,521.30		1.52 2.18	Balto. A. B. & Tile Co.	Sept. 24, 1919 (157).
135	‡Calhoun street	N. B. L. Laurens street	S. B. L. Westwood avenue	Sheet asphalt	2,397.35	39.60	10,561.66	1.33 3.50	1.20 2.04	Balto. A. B. & Tile Co.	Oct. 18, 1921 (289, 291).
	Calvert street	Calvert Street Bridge	S. B. L. North avenue	Sheet asphalt	1,245.00	36.00	5,079.00		1.15	F. E. Schneider Pav. Co.	Sept. 24, 1919.
	‡Calvert street	N. C. L. North avenue	S. C. L. 20th street	Sheet asphalt	345.50	36.00	1,373.00		1.50	P. Flanigan & Sons	Mar. 6, 1918.
	*Calvert street	S. C. L. 20th street	N. C. L. 24th street	Bit. concrete	1,482.60	36.00	5,645.50		.90	F. E. Schneider Pav. Co.	Aug. 11, 1918 (72).
	‡Calvert street	N. B. L. Saratoga street	N. B. L. Pleasant street	Sheet asphalt	452.10	35.50	1,774.34	1.85 3.25	1.85 2.25	F. E. Schneider Pav. Co.	Oct. 8, 1918 (95).

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
128	‡Calvert street	N. B. L. Lexington street	N. B. L. Saratoga street	Sheet asphalt	436.05	35.40	1,729.79	1.53 2.45	1.45 2.05	Balto. A. B. & Tile Co.	Aug. 23, 1921 (297).
141	‡Calverton Road	N. B. L. Edmondson avenue	E. B. L. Poplar Grove street	Sheet asphalt	543.00	30.00	1,996.00	.....	1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
119	‡Camden street	E. B. L. Paca street	E. B. L. Eutaw street	Granite blocks	413.95	40.87	1,803.40	3.20	3.20	Consolidated Engr. Co.	Sept. 29, 1920.
	‡Camden street	E. F. R. Hanover street	W. F. R. Charles street	Granite blocks	339.30	37.00	1,464.10	.....	3.09	N. A. Middleton & Co.	July 23, 1918.
104	‡Carey street	S. B. L. Pratt street	S. B. L. North avenue	Sheet asphalt	10,329.30	38.12	41,709.25	1.51 3.45	1.51 2.20	Balto. A. B. & Tile Co.	Nov. 17, 1920 (236).
	‡Carlisle avenue	E. B. L. Garrison avenue	W. B. L. Denison street	Sheet asphalt	534.00	26.00	1,546.00	.....	1.60	Balto. A. B. & Tile Co.	Nov. 11, 1919.
67	‡Caroline street	N. B. L. Monument street	S. B. L. Chase street	Sheet asphalt	1,624.05	47.94	8,020.37	2.23	1.62	Southern Pav. & Const. Co.	Sept. 2, 1919 (159, 163).
	‡Caroline street	N. B. L. Oliver street	S. B. L. North avenue	Sheet asphalt	1,606.40	47.93	9,002.20	2.20	1.74 1.67	Warner-Quinlan Asph. Co.	Aug. 27, 1918.
99	‡Caroline street	N. B. L. Thames street	S. B. L. Pratt street	Granite blocks	3,339.10	varies	15,485.35	2.38 2.48	2.38 2.45	Consolidated Engr. Co.	Aug. 11, 1920 (228).
	‡Caroline street	S. B. L. Hoffman street	N. B. L. Chase street	Sheet asphalt	965.05	47.77	5,029.60	2.20	1.74	Warner-Quinlan Asph. Co.	Aug. 27, 1918 (11, 12).
120	*Carwell avenue	E. B. L. Chestnut avenue	W. B. L. Cedar street	Bit. concrete	331.00	36.00	1,240.00	.....	1.49	Balto. A. B. & Tile Co.	June 27, 1919.
	‡Castle street	N. B. L. Fayette street	S. B. L. Madison street	Sheet asphalt	1,818.20	30.12	6,411.50	.....	1.65	U. S. Asph. Refining Co.	Dec. 3, 1918 (38).
	‡Catherine street	N. B. L. Baltimore street	N. B. L. Fayette street	Bit. concrete	435.00	30.00	1,478.00	.....	1.55	Penn-Mar Const. Co.	Dec. 19, 1918.
	‡Catherine street	S. B. L. Baltimore street	N. C. L. Lombard street	Vitrified blocks	578.00	39.60	7,957.00	.....	2.08	Penn-Mar Const. Co.	Nov. 14, 1917 (106).
	‡Cecil avenue	N. C. L. 20th street	S. C. L. 22nd street	Vitrified blocks	403.20	39.60	1,775.00	.....	2.07	P. Flanigan & Sons	Feb. 26, 1918.
	‡Cecil avenue	N. B. L. 22nd street	426 ft. northeasterly	Sheet asphalt	426.00	39.60	1,881.00	.....	1.60	American P. & Contr. Co.	Oct. 1, 1919.
120	‡Cedar avenue	N. B. L. 33rd street	N. B. L. Carwell avenue	Bit. concrete	1,835.00	36.00	7,103.00	.....	1.49	Balto. A. B. & Tile Co.	June 27, 1919.
98	‡Centre street	E. B. L. Howard street	W. B. L. Washington Place	Sheet asphalt	1,181.10	38.77	4,672.22	1.78 2.25	1.78 2.25	Balto. A. B. & Tile Co.	Feb. 17, 1920 (207).
91	‡Centre street	W. B. L. Washington Place	E. B. L. Courtland street	Vitrified blocks	702.10	38.45 30.20	2,761.71	2.30	2.19	P. Flanigan & Sons	June 2, 1920 (263).
	‡Central avenue	S. B. L. Oliver street	E. C. L. Harford Road	Vitrified blocks	179.80	43.00	.....	2.14	2.14	D. M. Andrews Co.	Dec. 27, 1917 (87).
	‡Central avenue	N. B. L. Pratt street	S. B. L. Oliver street	Vitrified blocks	1,499.68 4,247.75	73.82 41.71	32,765.63	3.45 2.03	1.95	Martin J. Beach	Oct. 8, 1918 (30).
	‡Central avenue (portions of)	S. B. L. Fawn street	N. B. L. Fayette street	Granite blocks Vitrified blocks	1,061.03	73.94	8,995.22	3.45	2.15 3.20	Martin J. Beach	Nov. 19, 1918 (29, 71).
	‡Central avenue	N. F. R. Fleet street	N. B. L. Pratt street	Granite blocks	1,330.78	73.98	11,157.79	3.25	3.25	John E. Quinn	Oct. 29, 1918 (82).
110	‡Charles street	S. B. L. Saratoga street	S. B. L. Centre street	Sheet asphalt	1,649.45	39.00	5,898.55	2.20 1.60	1.60 2.15	P. Flanigan & Sons	June 23, 1920 (269).
	*Charles street	N. B. T. University Pkwy.	73.3 ft. W. of Charcoat	Bit. concrete	2,412.00	40.00	10,221.04	.....	.90	Warner-Quinlan Asph. Co.	Oct. 28, 1918 (73).
	‡Charles street	S. B. L. Hill street	S. B. L. Barre street	Vitrified blocks	744.10	39.20	3,356.65	2.27	2.24	P. F. Reddington	Aug. 20, 1918 (18).
80	‡Charles street	N. B. L. Fort avenue	S. B. L. Hill stret	Vitrified blocks	3,213.55	39.33	12,926.65	.....	2.25	M. J. Beach	Nov. 18, 1919.
85	‡Charles street	S. B. L. Chase street	S. B. L. North avenue	Sheet asphalt	3,036.80	39.00	12,442.01	2.33 3.50	1.84 2.30	P. Flanigan & Sons	Sept. 30, 1919.
70	‡Chase street	E. B. L. Broadway	W. B. L. Milton avenue	Bit. concrete	3,324.55	38.79 39.60	14,042.67	2.40 1.55	1.55 2.35	Southern Pav. & Const. Co.	Oct. 21, 1919 (251).
	‡Chauncey avenue	E. B. L. Linden avenue	W. B. L. Brookfield avenue	Sheet asphalt	571.00	24.00	1,651.00	.....	1.68	Union Paving Co.	Nov. 11, 1919.
	‡Cheapside avenue	N. B. L. Pratt street	S. B. L. Water street	Granite blocks	466.80	39.90	2,020.90	.....	3.45	P. F. Reddington	Sept. 24, 1918 (27).
	‡Chester street	N. B. L. North avenue	S. B. L. Clifton Park	Bit. concrete	605.00	42.00	2,717.00	.....	1.24	Elder Pav. & Contr. Co.	Aug. 12, 1918.
	‡Chester street	S. B. L. Lombard street	N. B. L. Pratt street	Bit. concrete	357.00	42.55	1,737.89	.....	1.38	Filbert Pav. & Const. Co.	July 23, 1918 (132).
	‡Chester street	S. B. L. Lombard street	S. B. L. Baltimore street	Sheet asphalt	326.05	42.05	2,048.20	.....	**.71 1.74	Warner-Quinlan Asph. Co.	Feb. 19, 1918 (116).
	‡Chester street	N. B. L. Monument street	N. C. L. Ashland avenue	Sheet asphalt	703.93	41.56	3,339.70	.....	**.77	P. Flanigan & Sons	July 23, 1918 (1,116).
	‡Chester street	N. F. R. Eager street	S. B. L. Chase street	Sheet asphalt	436.90	41.95	2,060.00	.....	**.77	P. Flanigan & Sons	July 23, 1918 (1).
	‡Chester street	N. B. L. Orleans street	S. B. L. McElderry street	Sheet asphalt	666.60	41.92	3,131.00	1.83	1.62	P. Flanigan & Sons	July 23, 1918 (1).
	‡Chester street	N. C. L. Ashland avenue	S. F. R. Eager street	Granite blocks	442.20	41.77	2,072.74	.....	2.97	N. A. Middleton & Co.	July 23, 1918.
91	‡Clay street	E. B. L. Eutaw street	W. B. L. Charles street	Granite blocks	1,161.90	76.78 19.55 17.27	2,798.78	.....	2.38 2.63	Curry-Quinn Co.	Apr. 14, 1920 (256).
73	‡Clement street	E. B. L. Race street	W. B. L. Charles street	Sheet asphalt	728.75	39.35	3,006.90	.....	1.60 2.22 2.30	American P. & Contr. Co.	Jan. 27, 1920 (214).
	‡Cleveland avenue	N. B. L. Springdale avenue	S. B. L. Liberty Hgts. avenue	Bit. concrete	621.00	30.00	1,924.00	.....	1.58	J. H. Cranford Const. Co.	Oct. 20, 1918 (47).
114	‡Cleveland avenue	N. B. L. Garrison avenue	S. B. L. Liberty Hgts. avenue	Bit. concrete	623.00	30.00	2,140.00	.....	1.58 2.15	Balto. A. B. & Tile Co.	May 18, 1919 (149).
108	‡Clifton avenue	E. B. L. Smallwood street	W. side 1st alley E. of McKean avenue	Vitrified blocks	1,606.00	39.60	7,574.00	.....	2.18	Penn-Mar Const. Co.	Apr. 30, 1919 (152).
	‡Clifton avenue	E. B. L. Bentalou street	W. B. L. Smallwood street	Sheet asphalt	322.00	39.60	1,515.00	.....	1.68	Union Paving Co.	Nov. 11, 1919.
	‡Clifton avenue	W. B. L. Hilton street	E. B. L. Denison street	Sheet asphalt	435.00	32.00	1,570.00	.....	1.65	American Paving Co.	Nov. 7, 1919.

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
140	‡Cliftview avenue.	E. C. L. Harford Road	W. B. L. Wolfe street	Sheet asphalt.	1,283.00	31.00	4,434.00		1.30	American P. & Contr. Co.	Sept. 29, 1920.
	‡Collington avenue.	S. B. L. Baltimore street	N. B. L. Pratt street	Bit. concrete.	713.55	41.92	3,480.96		1.38	Filbert Pav. & Const. Co.	July 23, 1918 (133).
	‡Collington avenue.	N. B. L. Orleans street	S. B. L. Ashland avenue	Sheet asphalt.	1,754.90	30.10	6,437.70		1.74	Warner-Quinlan Asph. Co.	Feb. 19, 1918 (117, 70).
63	‡Collington avenue.	N. B. L. Baltimore street	S. B. L. Orleans street	Sheet asphalt.	1,115.85	41.77	5,353.74		1.69 2.35	Filbert Pav. & Const. Co.	Feb. 4, 1919 (145).
	‡Collington avenue.	N. B. L. North avenue	Clifton Park.	Sheet asphalt.	585.00	30.00	2,057.00		1.65	P. Flanigan & Sons.	Oct. 15, 1919.
	‡Colvin street.	N. B. L. Gay street	S. B. L. Front street	Vitrified blocks	750.95	38.42	3,214.54		2.11	P. F. Reddington.	Aug. 20, 1918.
	‡Commerce street.	N. B. L. Pratt street	S. B. L. Lombard street	Granite blocks	331.80	35.90	1,326.30		3.53	Geo. Long Contr. Co.	Dec. 17, 1918.
	‡Commerce street.	N. B. L. Lombard street	S. B. L. Baltimore street	Vitrified blocks	170.80 369.65	32.20 35.30	538.63 1,468.56	2.27	2.24	P. F. Reddington.	Aug. 20, 1918 (19).
	‡Constitution street.	N. B. L. Front street	S. B. L. Monument street	Granite blocks	7,490.70	29.00 42.00	1,888.75		3.17	Cunningham P. & Con. Co.	Dec. 6, 1917.
	‡Conway street.	E. B. L. Sharp street	W. B. L. Light street	Sheet asphalt.	1,042.55	38.40 37.00	4,201.22	3.25	1.74	Filbert Pav. & Const. Co.	Aug. 27, 1918 (25).
94	‡Courtland street.	S. B. L. Franklin street	S. B. L. Centre street	Vitrified blocks	507.65	40.00	2,522.64		2.19	P. Flanigan & Sons.	June 2, 1920.
63	‡Courtland street.	N. B. L. Saratoga street	S. B. L. Franklin street	Sheet asphalt.	969.20	27.00	3,047.38		1.69 2.40 2.35	Filbert Pav. & Const. Co.	Feb. 4, 1919 (142).
114	‡Covington street.	N. B. L. Folsom street	N. C. L. Montgomery street.	Sheet asphalt.	1,774.80	39.24	7,632.25		1.40 2.00	P. Flanigan & Sons.	Sept. 29, 1920.
114	‡Covington street.	N. B. L. Fort avenue	N. B. L. Gittings street	Sheet asphalt.	641.15	33.58	2,047.24		1.40 2.00	P. Flanigan & Sons.	Sept. 29, 1920.
73	‡Cross street.	E. B. L. Scott street	W. B. L. Warner street	Sheet asphalt.	1,746.80	38.87	7,125.58		1.60 2.22 2.30	American P. & Contr. Co.	Jan. 27, 1920 (212).
73	‡Cross street.	E. B. L. Sharp street	W. B. L. Charles street	Sheet asphalt.	1,429.55	32.78	5,350.30		1.60 2.22 2.30	American P. & Contr. Co.	Jan. 27, 1920 (213).
73	‡Cross street.	E. B. L. Light street	W. B. L. Riverside avenue.	Sheet asphalt.	890.45	30.26	2,908.56		1.60 2.22 2.30	American P. & Contr. Co.	Jan. 27, 1920 (222).
114	‡Cross street.	E. B. L. Riverside avenue	W. B. L. Covington street	Sheet asphalt.	522.25	29.60	1,701.44		1.40 2.00	P. Flanigan & Sons.	Sept. 29, 1920.
	‡Curley street.	North side Madison street	270 ft. northward	Sheet asphalt.	242.00	24.30	683.29		.84	Balto. A. B. & Tile Co.	Jan. 2, 1922 (108).
	‡Custom House avenue	N. B. L. Exchange Place	S. B. L. Water street	Vitrified blocks	201.70	11.90	273.21		2.22	Standard Contr. Co.	Feb. 4, 1919.
106	‡Dallas street.	N. B. L. Fayette street	S. B. L. Orleans street	Vitrified blocks	589.65	11.70	793.53		2.09	Slack & Slack.	June 30, 1920.
106	‡Dallas street.	N. B. L. McElderry street	S. B. L. Monument street	Vitrified blocks	352.90	11.85	462.83		2.09	Slack & Slack.	June 30, 1920.
106	‡Dallas street.	N. B. L. Madison street	S. B. L. Ashland avenue	Vitrified blocks	320.10	23.75	847.35		2.09	Slack & Slack.	June 30, 1920.
	‡Dalrymple avenue.	W. B. L. Garrison avenue	E. B. L. Oakfield avenue	Sheet asphalt.	1,319.00	30.00	4,752.00		1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
132	‡Dalrymple avenue.	E. B. L. Oakfield avenue	Western City Limits	Sheet asphalt.	643.00	30.00	2,289.00		1.60	Balto. A. B. & Tile Co.	Sept. 13, 1920.
91	‡Dark Lane.	E. B. L. Lovegrove alley	W. B. L. Calvert street	Granite blocks	495.15	15.17	827.19		1.38	Curry-Quinn Co.	Apr. 14, 1920 (257).
	‡Darley avenue.	E. B. L. Harford avenue	512 ft. eastwardly	Sheet asphalt.	512.00	36.00	2,086.00		1.65	P. Flanigan & Sons.	Oct. 15, 1919.
	‡Davis street.	N. B. L. Lexington street	S. B. L. Bath street	Granite blocks	31.35 380.40 800.55	30.20 24.88 34.45	4,007.24		3.12	Geo. Long Contr. Co.	July 2, 1918.
141	‡Darley avenue.	307 ft. east of Germania avenue.	W. B. L. Wolfe street	Sheet asphalt.	912.00	36.00	3,700.00		1.17 1.95	P. Flanigan & Sons.	Sept. 27, 1921.
134	‡Decker alley.	N. B. L. Eager street	S. B. L. Chase street	Vitrified blocks	336.80 124.40	20.00 11.90	912.92		1.05	P. F. Reddington.	Nov. 1, 1921.
141	‡Denison street.	N. B. L. Beech avenue	N. B. L. Mondawmin avenue.	Sheet asphalt.	330.00	32.00	1,401.00		1.17 1.95	P. Flanigan & Sons.	Sept. 27, 1921.
	‡Denison street.	N. B. L. Clifton avenue	N. B. L. Elgin avenue	Sheet asphalt.	771.00	32.00	8,528.00		1.50	F. E. Schneider Pav. Co.	Oct. 15, 1917.
	‡Denison street.	N. B. L. Elgin avenue	S. B. L. Beech avenue	Sheet asphalt.	313.00	32.00	1,119.00		1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
	‡Denison street.	S. B. L. Bateman avenue	S. B. L. Powhatan avenue	Sheet asphalt.	890.00	26.00	2,793.00		1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
	‡Denison street.	N. B. L. Powhatan avenue	S. B. L. Fairview avenue	Sheet asphalt.	337.00	26.00	978.00		1.65	Balto. A. B. & Tile Co.	Nov. 27, 1919.
	‡Division street.	N. B. L. Lafayette avenue	N. B. L. Mosher street	Bit. concrete.	288.80	38.95	1,821.60	2.15	1.27	P. Flanigan & Sons.	July 23, 1918 (130, 131)
93	‡Division street.	N. B. L. McMechen street	S. B. L. North avenue	Sheet asphalt.	3,102.50	39.67	13,427.22	1.49 2.30	1.49 2.14	Southern Pav. & Const. Co.	Dec. 23, 1919 (202).
	‡Dolphin street.	E. B. L. Brevard street	W. B. L. Mt. Royal avenue.	Sheet asphalt.	484.20	39.05	2,256.20		.80	F. E. Schneider Pav. Co.	Aug. 28, 1917.
105	‡Dolphin street.	E. B. L. Fremont street	W. B. L. Brevard street	Sheet asphalt.	4,705.05	38.80	27,525.56	2.25 1.53	1.53 2.22	Balto. A. B. & Tile Co.	June 23, 1920 (260).
	‡Dover street.	E. B. L. Eutaw street	W. C. L. Hopkins Place	Vitrified blocks	149.95 437.40 133.55	12.00 16.02 20.35	1,283.80		2.06	M. J. Beach.	Dec. 10, 1917 (104).

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
97	†Dover street	E. B. L. Fremont street	W. B. L. Eutaw street	Granite blocks	1,467.70	varies	2,431.34	.....	1.42	P. Flanigan & Sons	July 7, 1920 (242).
	†Driveway	W. B. L. President street	Sewerage Pumping Station	Vitrified blocks	78.85	29.30	232.73	.....	2.20	Southern Pav. & Const. Co.	Oct. 14, 1919.
	†Driveway	E. C. L. East Falls avenue	Sewerage Pumping Station	Vitrified blocks	155.80	36.35	244.75	.....	2.20	Southern Pav. & Const. Co.	Oct. 14, 1919.
112	†Druid Hill avenue	N. B. L. Hoffman street	S. B. L. McMechen street	Sheet asphalt	2,123.10	36.20	8,156.96	2.20 3.25	1.49 2.25	P. Flanigan & Sons	Sept. 8, 1920 (247).
103	†Druid Hill avenue	W. B. L. Eutaw street	E. C. L. Paca street	Sheet asphalt	410.30	35.55	1,620.00	2.25	1.53 2.20	Balto. A. B. & Tile Co.	Sept. 29, 1920.
102	†Druid Hill avenue	E. C. L. Paca street	S. C. L. Hoffman street	Vitrified blocks	1,730.55	36.24	6,497.14	1.20 2.40	2.28	M. O'Herron & Sons Inc.	Aug. 18, 1920 (276).
103	†Druid Hill avenue	N. B. L. McMechen street	S. B. L. North avenue	Sheet asphalt	3,006.80	36.61	11,720.43	2.27	1.53 2.20	Balto. A. B. & Tile Co.	Sept. 29, 1920.
	‡Dukeland street	N. C. L. North avenue	N. C. L. Windsor avenue	Sheet asphalt	1,163.00	40.00	6,044.00	.....	1.78	Balto. A. B. & Tile Co.	May 1, 1919. Nov. 7, 1919.
120	‡Dulin avenue	N. B. L. 33rd street	N. B. L. 34th street	Bit. concrete	595.00	36.00	2,288.00	.....	1.49	Balto. A. B. & Tile Co.	June 27, 1919.
133	‡Dumbarton avenue	E. B. L. Old York Road	W. B. L. Westerwald avenue	Sheet asphalt	672.00	24.00	1,796.00	.....	1.60	American P. & Contr. Co.	May 14, 1920.
	‡Duvall avenue	E. B. L. Garrison avenue	W. B. L. Denison street	Sheet asphalt	603.00	24.00	1,617.00	.....	1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
	‡Duvall avenue	W. B. L. Elsinore avenue	E. B. L. Mt. Holly avenue	Sheet asphalt	901.00	24.00	2,556.00	.....	1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
	†Eager street	East side Jones Falls	E. C. L. Homewood avenue	Sheet asphalt	1,141.30	38.83	5,359.67	.....	1.74	Filbert Pav. & Const. Co.	Aug. 27, 1918 (5).
	†Eager street	E. B. L. Ensor street	W. B. L. Broadway	Sheet asphalt	2,187.40	38.75	9,953.32	2.35	1.74	Filbert Pav. & Const. Co.	Aug. 27, 1918 (6).
	Eager street	E. B. L. Broadway	W. B. L. Chester street	Sheet asphalt	1,724.60	39.10	8,216.80	2.30	1.76 **.77	P. Flanigan & Sons	July 23, 1918 (4).
85	†Eager street	E. B. L. Park avenue	W. B. L. Cathedral street	Sheet asphalt	272.03	32.40	970.12	.....	1.84	P. Flanigan & Sons	Sept. 30, 1919.
93	†Eager street	E. B. L. Cathedral street	W. B. L. Calvert street	Sheet asphalt	1,276.45	38.92	5,270.92	.....	1.59 2.19	Southern Pav. & Const. Co.	Dec. 23, 1919 (89).
134	†East street	75 ft. N. of Baltimore street	S. B. L. Fayette street	Vitrified blocks	231.80	15.70 13.30	531.26	.....	1.98	P. F. Reddington	Nov. 1, 1921.
121	†East street	N. B. L. Fayette street	N. B. L. Low street	Sheet asphalt	1,186.20	varies	3,283.95	.....	1.45 1.80	P. Flanigan & Sons	Dec. 8, 1920.
	East street	S. B. L. Front street	N. B. L. Low street	Vitrified blocks	983.63	30.25 37.70	3,849.22	.....	2.09	Consolidated Engr. Co.	Sept. 17, 1918 (21).
63	†Eastern avenue	E. B. L. Patt. Pk. avenue	W. B. L. Ellwood avenue	Sheet asphalt	3,020.90	41.80	13,752.99	1.69 3.80	1.69 2.35	Filbert Pav. & Const. Co.	Feb. 4, 1919 (144).
109	†Eastern avenue	E. B. L. Broadway	W. B. L. Patt. Pk. avenue	Granite blocks	2,832.80	41.63	11,984.32	2.30 1.65	1.65 2.17	American P. & Contr. Co.	Sept. 8, 1920.
69	†Eastern avenue	E. B. L. East Falls avenue	W. B. L. Broadway	Sheet asphalt Granite blocks	1,233.05	35.97	4,617.15	3.75	2.66 1.89	Southern Pav. & Const. Co.	Oct. 14, 1919.
109	†Eastern avenue	W. B. L. Ellwood avenue	City Limits	Sheet asphalt	433.00	41.96	1,812.87	3.30 1.65	1.65 2.17	American P. & Contr. Co.	Sept. 8, 1920.
61	†East Falls avenue	N. B. L. Stiles street	S. B. L. Aliceanna street	Sheet asphalt	2,998.10	40.00 42.00	13,020.01	3.90	1.70 3.80	Southern Pav. & Const. Co.	Oct. 14, 1919.
70	†Eden street	N. B. L. Eastern avenue	S. B. L. Madison street	Sheet asphalt	4,624.90	40.65	20,227.60	.....	1.62 2.35	Southern Pav. & Const. Co.	Oct. 21, 1919 (252).
	†Eden street	S. B. L. Lanvale street	N. B. L. Madison street	Sheet asphalt	3,249.78	41.76	15,565.30	2.20	2.10 1.67	Warner-Quinlan Asph. Co.	Aug. 27, 1918 (15).
	‡Edgewood avenue	N. B. L. Powhatan avenue	S. B. L. Fairview avenue	Sheet asphalt	329.00	30.00	1,097.00	.....	1.65	Balto. A. B. & Tile Co.	Nov. 27, 1919.
104	†Edmondson avenue	E. B. L. Fulton avenue	W. B. L. Gilmor street	Sheet asphalt	799.40	39.45	3,250.78	2.24 1.51	1.51 2.20	Balto. A. B. & Tile Co.	Nov. 17, 1920 (240).
104	†Edmondson avenue	E. B. L. Calhoun street	E. B. L. Fremont street	Sheet asphalt	2,216.00	39.00	8,728.68	2.24 1.51	1.51 2.20	Balto. A. B. & Tile Co.	Nov. 17, 1920 (240).
	‡Edmondson avenue	W. end Gwynns Falls Br.	Western City Limits	Bit. concrete	4,322.00	18.00	8,975.50	.....	.95	Warner-Quinlan Asph. Co.	June 23, 1918 (73).
	‡Elgin avenue	E. B. L. Garrison avenue	W. B. L. Denison street	Sheet asphalt	380.00	32.00	1,350.00	.....	1.59	F. E. Schneider Pav. Co.	Oct. 15, 1917.
	‡Elgin avenue	E. B. L. Denison street	W. B. L. Hilton street	Sheet asphalt	438.00	30.00	1,468.00	.....	1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
	‡Elgin avenue	W. B. L. Hilton street	W. B. L. Ellamont street	Sheet asphalt	401.00	30.00	1,345.00	.....	1.65	Balto. A. B. & Tile Co.	Nov. 27, 1919.
126	‡Ellamont street	S. B. L. North avenue	N. B. L. Baker street	Sheet asphalt	1,005.00	32.00	3,550.00	2.35 3.25	1.65 2.29	American P. & Contr. Co.	Feb. 18, 1919 (151).
	Ellamont street	S. B. L. Baker street	N. B. L. Pressman street	Sheet asphalt	434.00	32.00	1,704.00	.....	1.60	Balto. A. B. & Tile Co.	Nov. 27, 1919.
	Ensor street	N. C. L. Gay street	N. B. L. Ashland avenue	Vitrified blocks	1,798.03	30.27	6,948.57	1.35 2.08	2.08	David M. Andrew Co.	Feb. 18, 1918 (118).
	†Ensor street	N. B. L. Ashland avenue	E. C. L. Harford Road	Granite blocks	625.95	30.10	2,243.60	.....	2.97	N. A. Middleton & Co.	July 23, 1918.
	†Ensor street	S. B. L. Lamont avenue	N. B. L. Chase street	Bit. concrete	645.70 321.65 1,594.60	39.15 30.08 19.60	7,561.28	.....	4.90	Warner-Quinlan Asph. Co.	Nov. 12, 1918 (35).
140	†Etting street	N. B. L. Hoffman street	S. B. L. Mosher street	Sheet asphalt	1,450.45	26.04	4,436.31	.....	1.70 2.37	P. Flanigan & Sons	Dec. 20, 1921 (30).

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
53	†Eutaw street.	N. C. L. Lee street	S. B. L. Camden street	Granite blocks	1,268.40	47.21	6,250.13	3.63	3.63	P. F. Reddington	Oct. 14, 1919.
92	†Eutaw street.	N. B. L. Baltimore street	Madison avenue	Sheet asphalt	3,857.56	42.17	17,649.40	1.94 4.28	1.87 2.65	Union Paving Co.	Dec. 23, 1919.
	†Exeter street.	S. B. L. Low street	S. B. L. Gay street	Granite blocks	350.25	30.07	1,149.53		2.45	Consolidated Engr. Co.	Sept. 1, 1920.
	†Exeter street.	S. B. L. Baltimore street	N. B. L. Lombard street	Granite blocks	450.50	29.37	1,540.16		3.12	Cunningham P. & Con. Co.	Jan. 14, 1919.
	†Exeter street.	N. B. L. Fayette street	S. B. L. Low street	Granite blocks	953.95	31.05	3,210.27		3.12	Cunningham P. & Con. Co.	Jan. 14, 1919 (55).
	†Exeter street.	N. B. L. Gay street	S. B. L. Front street	Granite blocks	808.30	31.00	3,231.69	1.53	3.12	Cunningham P. & Con. Co.	Jan. 14, 1919 (56).
	Exeter street.	S. B. L. Fayette street	N. B. L. Baltimore street	Granite blocks	311.35	24.15	840.32		3.45	P. F. Reddington	July 30, 1918.
	‡Fairmount avenue.	W. B. L. Catherine street	E. B. L. Shipley street	Bit. concrete	526.00	30.00	1,614.00		1.55	Penn-Mar Const. Co.	Dec. 19, 1918.
58	‡Fairmount avenue.	E. B. L. Central avenue	W. B. L. Broadway	Vitrified blocks	460.85 948.55	39.53 20.26	4,790.90		2.22	Standard Contr. Co.	Feb. 4, 1919 (98).
	‡Fairview avenue.	E. B. L. Grantley street	W. B. L. Hilton street	Sheet asphalt	1,475.00	30.00	5,077.00		1.65	Balto. A. B. & Tile Co.	Nov. 27, 1919.
	‡Fairview avenue.	E. B. L. Garrison avenue	W. B. L. Grantley street	Bit. concrete	938.00	30.00	2,604.00		1.65	Balto. A. B. & Tile Co.	Dec. 11, 1918 (48).
	*Fallsway (1st sect.)	100 ft. N. of Bath street	S. B. L. Baltimore street	Granite blocks	2,600.00	50.00	15,583.00		2.64	David M. Andrew Co.	Nov. 25, 1918 (54).
2	*Fallsway (2nd sect.)	100 ft. N. of Bath street	N. B. L. Madison street	Granite blocks	1,162.80	50.00	7,168.50		2.48	David M. Andrew Co.	May 8, 1919.
	*Fallsway (3rd sect.)	S. B. L. Eager street	Guilford Avenue Bridge	Sheet asphalt	1,737.60	63.90	13,360.90	1.63 2.30	1.63 2.30	David M. Andrew Co.	Nov. 2, 1919 (149).
29	‡Fayette street.	E. B. L. Poppleton street	W. B. L. Pine street	Vitrified blocks	1,388.62	39.00	5,796.89	2.14	2.05	Cunningham P. & Con. Co.	Feb. 4, 1919 (141).
43	‡Fayette street.	E. B. L. Broadway	E. B. L. Luzerne street	Vitrified blocks	3,545.78	41.67	17,198.71	2.24	2.16	M. J. Beach	Jan. 21, 1919 (145).
65	‡Fayette street.	E. B. L. Gay street	W. B. L. Caroline street	Vitrified blocks	3,057.90	29.33 31.45	10,229.22	2.25 3.25	1.59 2.15	Southern Pav. & Const. Co.	July 29, 1919 (193).
111	‡Fayette street.	E. B. L. Paca street	E. B. L. Charles street	Granite blocks	1,965.75	37.83	7,871.77	3.40	3.35	Geo. Long Contr. Co.	June 16, 1920 (230).
115	‡Fayette street.	E. B. L. Guilford avenue	W. B. L. Gay street	Sheet asphalt	649.35	varies	2,399.14	1.65 3.40	1.60 2.10	P. Flanigan & Sons.	Sept. 16, 1920 (235).
70	‡Fayette street.	E. B. L. Caroline street	W. B. L. Broadway	Vitrified blocks	939.75	29.52	2,896.93	3.75 2.40	2.30	Southern Pav. & Const. Co.	Oct. 21, 1919 (255).
	‡Fayette street.	E. B. L. Pine street	W. B. L. Paca street	Vitrified blocks	1,180.63	39.00	5,125.30	3.75	2.55	Field, Barker & Underwood.	Oct. 8, 1918.
	Fayette street.	W. B. L. Catherine street	W. B. L. Shipley street	Bit. concrete	667.00	30.00	2,111.00		1.55	Penn-Mar. Const. Co.	Dec. 19, 1918.
155	‡Federal street.	E. B. L. Calvert street	W. B. L. Greenmount avenue	Vitrified blocks	1,293.95	39.90	5,500.85		2.21	P. F. Reddington	May 27, 1919 (172).
67	‡Federal street.	E. B. L. Ensor street	W. B. L. Broadway	Sheet asphalt	2,313.90	35.82	8,631.99	2.23	1.62 2.19	Southern Pav. & Const. Co.	Sept. 2, 1919 (169).
100	‡Fell street.	260 ft. N. of Water Front	S. B. L. Ann street	Granite blocks	663.10	varies	2,910.34	2.45	2.45	Consolidated Engr. Co.	Sept. 1, 1920.
73	‡Fort avenue.	E. B. L. Hanover street	W. B. L. Charles street	Sheet asphalt	292.10	39.40	1,199.42		1.60 2.22 2.30	American P. & Contr. Co.	Jan. 27, 1920.
	‡Fort avenue.	W. B. L. Lawrence street	Fort McHenry	Sheet asphalt	4,978.70	49.50	27,755.06	1.70	1.70 2.40	P. Flanigan & Sons.	Dec. 17, 1918 (58, 59).
80	‡Fort avenue.	W. B. L. Charles street	W. B. L. Light street	Vitrified blocks	781.95	39.20	3,086.57	2.33	2.25	M. J. Beach	Nov. 18, 1919.
58	‡Forrest street.	N. B. L. Fayette street	S. B. L. Lexington street	Vitrified blocks	558.00	35.03	1,615.26		2.22	Standard Contr. Co.	Feb. 4, 1919.
	Forrest street.	N. B. L. Eager street	S. B. L. Chase street	Sheet asphalt	435.70	30.10	1,456.51		.93	Filbert Pav. & Const. Co.	Feb. 14, 1918.
	‡Forrest avenue.	E. C. L. Garrison avenue	W. B. L. Callaway avenue	Bit. concrete	945.00	30.00	3,118.00		1.35	F. E. Schneider Pav. Co.	Nov. 14, 1917.
	‡Forrest street.	N. B. L. Lexington street	N. C. L. Orleans street	Vitrified blocks	518.25	23.55	2,119.50		2.08	M. J. Beach	Sept. 11, 1917.
	‡Forest Park avenue	W. B. L. Garrison avenue	West City Limits	Bit. concrete	1,687.00	varies	4,899.00		1.60	J. H. Cranford Const. Co.	Dec. 11, 1918 (49).
123	‡Forest Park avenue	E. B. L. Callaway avenue	W. B. L. Grantley street	Bit. concrete	664.00	30.00	2,214.00		1.65 2.30	Balto. A. B. & Tile Co.	May 15, 1919 (150).
	‡Fortieth street.	E. C. L. Roland avenue	W. C. L. University Pkwy.	Sheet asphalt	2,087.00	32.00	8,063.00		1.55	Elder Pav. & Contr. Co.	Aug. 12, 1918.
	‡Forty-first street.	E. B. L. Old York Road	W. B. L. Ellerslie avenue	Sheet asphalt	1,089.00	33.00	3,927.00		1.60	American P. & Contr. Co.	Oct. 1, 1919.
	‡Forty-second street.	E. B. L. Greenmount avenue	W. B. L. Old York Road	Sheet asphalt	480.00	24.00	1,294.00		1.60	American P. & Contr. Co.	Oct. 1, 1919.
	‡Franklin Terrace.	E. B. L. Greenmount avenue	W. B. L. Old York Road	Sheet asphalt	487.00	24.00	1,306.00		1.60	American P. & Contr. Co.	Oct. 1, 1919.
55	‡Franklin street.	E. B. L. Charles street	W. B. L. St. Paul street	Vitrified blocks	301.45	42.65	1,380.71		2.21	P. F. Reddington	May 27, 1919.
102	‡Franklin street.	E. B. L. Fremont avenue	W. B. L. Penna. avenue	Vitrified blocks	2,314.45	37.32	8,643.95	2.40 3.55	2.28	M. O'Herron & Sons Inc.	Aug. 18, 1920 (268).
78	‡Franklin street.	E. B. L. Fulton avenue	W. B. L. Fremont avenue	Sheet asphalt	3,939.05	35.47	14,861.80		1.52 2.18	Balto. A. B. & Tile Co.	Sept. 24, 1919 (152, 180).
132	‡Frederick avenue.	E. C. L. Bentalou street	W. B. L. Gilmor street	Sheet asphalt	3,030.70	39.37	16,506.63	2.30 1.25	1.25 2.05	P. Flanigan & Sons.	Nov. 1, 1921 (88).
	‡Frederick street.	N. B. L. Pratt street	S. B. L. Lexington street	Granite blocks	1,433.45	28.00	4,593.72		3.27	Geo. Long Contr. Co.	July 2, 1918 (3).
	‡Frederick street.	N. B. L. Lexington street	E. B. L. Gay street	Granite blocks	298.15	21.00	668.03		3.45	P. F. Reddington	July 30, 1918.
81	*Fremont avenue.	E. B. L. Warner street	S. B. L. Ridgely street	Granite blocks	1,136.60	30.01	3,771.87	3.50	3.40	P. F. Reddington	June 2, 1920.
103	‡Fremont avenue.	SW. B. L. Penna. avenue	S. B. L. Lexington street	Sheet asphalt	7,278.25	38.88	30,324.57	3.45 2.27	1.53 2.20	Balto. A. B. & Tile Co.	Sept. 29, 1920 (271).
	‡Front street.	S. B. L. Baltimore street	N. B. L. Lombard street	Vitrified blocks	468.60 122.30	21.72 29.80	1,755.83		2.09	Consolidated Engr. Co.	Sept. 17, 1918 (26).
	‡Front street.	N. B. L. Gay street	S. B. L. Hillen street	Sheet asphalt	421.75	30.10	1,437.72		1.74	Filbert Pav. & Const. Co.	Aug. 27, 1918.

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
	†Front street	SE. B. L. Exeter street	W. B. L. Forrest street	Granite blocks	17.60 714.05	33.05 23.42	2,254.95		3.27	Cunningham P. & Con. Co.	Oct. 8, 1918.
	†Front street	N. B. L. Hillen street	East side High street	Granite blocks	185.60 293.50 164.77	30.30 21.70 44.10	2,098.67		3.27	Cunningham P. & Con. Co.	Oct. 8, 1918.
	‡Garrison Lane	N. B. L. Frederick Road	S. B. L. Baltimore street	Vitrified blocks	1,863.00	22.00	4,734.00		2.08	Penn-Mar Const. Co.	Nov. 14, 1917.
102	†George street	SW. C. L. Myrtle avenue	W. B. L. Penna. avenue	Vitrified blocks	1,016.60	35.08	3,969.25		2.28	M. O'Herron & Sons Inc.	Aug. 18, 1920.
103	†George street	NE. C. L. Myrtle avenue	S. B. L. Fremont avenue	Sheet asphalt	1,244.05	32.79	4,526.63		1.53 2.20	Balto. A. B. & Tile Co.	Sept. 29, 1920.
113	German street	E. B. L. Howard street	W. B. L. South street	Granite blocks Wood blocks	2,538.33	varies	12,277.76	2.25 2.70	2.05 3.40	Slack & Slack	Sept. 29, 1920 (229).
	†German street	E. B. L. Penn street	E. B. L. Fremont avenue	Vitrified blocks	717.35	35.20	2,901.60		2.08	M. J. Beach	Nov. 6, 1917.
	†German street	W. B. L. Paca street	E. B. L. Penn street	Granite blocks	935.80	35.72	3,814.30		3.45	P. F. Reddington	Sept. 24, 1918 (28).
83	†German street	E. B. L. Paca street	W. B. L. Eutaw street	Old gran. blks.	300.70	35.20	1,174.22		2.45	James Quinn	Sept. 24, 1919 (83).
21	†Gold street	E. B. L. Calhoun street	W. B. L. Druid Hill avenue	Sheet asphalt	1,449.35	39.40	5,946.44		1.36 1.70	P. Flanigan & Sons	Dec. 8, 1920 (279).
	†Gold street	E. B. L. Druid Hill avenue	W. B. L. Madison avenue	Sheet asphalt	491.45	39.00	2,165.10		1.55	Balto. A. B. & Tile Co.	Dec. 31, 1918 (64).
70	†Gough street	E. B. L. Central avenue	W. B. L. Broadway	Sheet asphalt	1,621.10	41.85	7,365.48	3.75 1.62	1.62 2.35	Southern Pav. & Const. Co.	Oct. 21, 1919.
	†Granby street	Jones Falls Wall	W. B. L. Exeter street	Vitrified blocks	830.85	30.03	2,860.54		2.09	Consolidated Engr. Co.	Sept. 17, 1918 (22).
58	†Granby street	E. B. L. Exeter street	W. B. L. Central avenue	Vitrified blocks	326.53 379.67	30.18 29.25	2,274.69		2.22	Standard Contr. Co.	Feb. 4, 1919.
122	†Grant street	N. B. L. Water street	S. B. L. German street	Sheet asphalt	113.20	15.90	199.32		1.53 2.25	Balto. A. B. & Tile Co.	Dec. 15, 1920 (218).
	‡Grantley street	N. B. L. Forest Park avenue	S. B. L. Fairview avenue	Bit. concrete	780.00	30.00	2,522.00		1.65 2.30	Balto. A. B. & Tile Co.	May 28, 1919.
	‡Grantley street	N. B. L. Garrison avenue	S. B. L. Fairview avenue	Sheet asphalt	467.00	30.00	1,622.00		1.65	Balto. A. B. & Tile Co.	Nov. 27, 1919.
	‡Grantley street	N. B. L. Springdale avenue	N. B. L. Fairview avenue	Bit. concrete	415.00	30.00	1,120.00		1.65	Balto. A. B. & Tile Co.	Dec. 11, 1919.
	†Greene street	N. B. L. Baltimore street	S. B. L. Lexington street	Vitrified blocks	664.68	39.08	2,810.00		2.45	Field, Barker & Underwood	Oct. 8, 1918.
	†Greene street	N. B. L. Lombard street	S. B. L. Baltimore street	Sheet asphalt	591.15	39.33	2,709.90		2.10	Warner-Quinlan Asph. Co.	Aug. 27, 1918.
105	†Greene street	S. B. L. Lexington street	S. B. L. Franklin street	Granite blocks	1,730.75	38.94	7,719.61	2.45 1.53	1.53 3.45	Balto. A. B. & Tile Co.	June 23, 1920 (258).
	‡Greenway	E. B. L. Hopkins Circle	W. C. L. St. Paul street	Sheet asphalt	706.00	40.00	2,803.00		1.70	American P. & Contr. Co.	Dec. 20, 1918.
	‡Guilford avenue	N. B. L. 27th street	S. B. L. 31st street	Bit. concrete	1,740.00	36.00	7,037.00		1.55	Balto. A. B. & Tile Co.	Nov. 1, 1918 (50).
	Guilford avenue	N. B. L. Lanvale street	S. B. L. North avenue	Vitrified blocks	759.40	36.09	1,512.05 1,595.00	2.14	2.09	P. F. Reddington	Jan. 31, 1918.
90	‡Guilford avenue	N. B. L. Chase street	Fallsway	Sheet asphalt	212.55	36.00	894.56	2.30	1.63 2.30	D. M. Andrew Co.	Jan. 6, 1920.
52	‡Guilford avenue	Bridge over Jones Falls	N. B. L. Lanvale street	Vitrified blocks	811.92	36.12	3,175.68	2.30	2.14	Thomas Mullan	July 8, 1919.
89	‡Guilford avenue	N. B. L. Baltimore street	S. C. L. Fayette street	Wood blocks	221.60	35.85	834.44	2.35	2.75	Geo. Long Contr. Co.	Dec. 23, 1919.
129	‡Guilford avenue	N. B. L. 31st street	S. B. L. 32nd street	Sheet asphalt	338.00	36.00	1,375.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
73	‡Hamburg street	E. B. L. Scott street	W. B. L. Fremont street	Sheet asphalt	1,781.05	38.82	7,334.53		1.00 2.22 2.30	American P. & Contr. Co.	Jan. 27, 1920 (212).
80	†Hamburg street	E. B. L. Sharp street	W. B. L. Light street	Vitrified blocks	1,709.65	38.58 15.58	5,632.05	2.33 3.50	2.25	M. J. Beach	Nov. 18, 1919.
	†Hamburg street	E. B. L. Light street	Federal Hill Park	Sheet asphalt	359.00 1,026.30	19.45 23.53	3,967.44		1.75	Balto. A. B. & Tile Co.	Jan. 14, 1919 (86).
95	†Hamilton street	E. B. L. Park avenue	W. B. L. St. Paul street	Sheet asphalt	926.00	23.48	2,457.54		1.49 2.14	Southern Pav. & Const. Co.	Dec. 23, 1919 (203).
	‡Hampden avenue	S. B. L. 27th street	S. B. L. 29th street	Bit. concrete	757.00	30.00	2,604.00		1.24	Elder Pav. & Contr. Co.	Feb. 26, 1918.
	†Harford Road	S. B. L. Oliver street	S. B. L. North avenue	Vitrified blocks	1,750.00	30.00	3,947.40 3,399.71	2.14	2.14 3.40	David M. Andrew Co.	Dec. 27, 1917.
	†Harford Road	S. C. L. Ensor street	S. B. L. Oliver street	Sheet asphalt	1,750.13	30.00	5,891.00		1.59	Elder Pav. & Contr. Co.	Jan. 15, 1918 (120).
	†Harford Road	S. C. L. Ashland avenue	S. C. L. Ensor street	Granite blocks	766.73	28.40 30.05	2,607.57		2.97	N. A. Middleton & Co.	July 23, 1918.
	†Harford Road	N. side Forrest street	S. B. L. Ashland avenue	Sheet asphalt	1,039.60	30.12	3,751.87	3.25	1.74	Filbert Pav. & Const. Co.	Aug. 27, 1918 (8).
58	†Hargrove alley	N. B. L. Saratoga street	S. B. L. Pleasant street	Vitrified blocks	197.10 203.20	11.27 19.10	683.90		2.22	Standard Contr. Co.	Feb. 4, 1919.
120	†Hargrove alley	S. B. L. Trenton street	N. B. L. Federal street	Vitrified blocks	792.30	18.69	1,672.29		2.10	M. J. Beach	Nov. 17, 1920 (242).
96	†Hargrove alley	N. B. L. Biddle street	S. B. L. Preston street	C'm't concrete	324.90	11.72	423.83		1.13	Home Cement Works	June 30, 1920.
97	†Hargrove alley	N. B. L. Monument street	S. B. L. Madison street	Vitrified blocks	336.20	11.45	428.05		2.07	P. F. Reddington	June 7, 1920.
97	†Hargrove alley	N. B. L. Centre street	S. B. L. Monument street	Granite blocks	406.80	19.42	874.01		1.42	P. F. Reddington	June 7, 1920.
97	†Hargrove alley	N. B. L. Pleasant street	N. B. L. Hamilton street	Vitrified blocks	711.75	varies	1,452.98		2.07	P. F. Reddington	June 7, 1920 (242).

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
96	‡Hargrove alley	N. B. L. Madison street	S. B. L. Chase street	C'm't concrete.	1,186.65	11.93	1,573.62		1.13	Home Cement Works	June 30, 1920 (242).
78	‡Harlem avenue	E. B. L. Pulaski street	W. B. L. Gilmor street	Sheet asphalt	2,169.55	39.33	9,141.20		1.52 2.18	Balto. A. B. & Tile Co.	Sept. 24, 1919.
78	‡Harlem avenue	E. B. L. Calhoun street	W. B. L. Fremont avenue	Sheet asphalt	2,112.23	38.83	8,150.40	1.68 2.30	1.52 2.18	Balto. A. B. & Tile Co.	Sept. 24, 1919 (160).
	‡Harlem avenue	W. B. L. Bentalou street	W. B. L. Warwick avenue	Sheet asphalt	868.00	40.00	4,096.00		1.68	Union Paving Co.	Nov. 11, 1919.
55	‡Harrison street	N. B. L. Baltimore street	S. B. L. Gay street	Vitrified blocks	442.60 140.40 418.35	40.98 30.45 38.35	3,836.40		2.21	P. F. Reddington	May 27, 1919 (173).
	‡Harwood avenue	1st al. E. of Guilford avenue	W. B. L. Barclay street	Sheet asphalt	342.00	36.00	1,363.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
114	‡Haubert street	N. B. L. Fort avenue	Water Front	Sheet asphalt	294.20	23.66	6,443.80		1.40 2.00	P. Flanigan & Sons	Sept. 29, 1920 (239).
73	‡Henrietta street	E. B. L. Sharp street	W. B. L. Light street	Sheet asphalt	1,514.05	36.48	5,999.30		1.60 2.22 2.30	American P. & Contr. Co.	Jan. 27, 1920 (211).
	‡Hickory avenue	S. B. L. 36th street	W. B. L. Roland avenue	Sheet asphalt	976.00	32.00	3,588.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
	‡Hickory avenue	N. B. L. 36th street	N. B. L. 38th street	Bit. concrete	1,093.00	32.00	3,720.00		1.67	Warner-Quinlan Asph. Co.	Dec. 11, 1918.
	‡High street	N. B. L. Baltimore street	N. C. L. Fayette street	Sheet asphalt	318.00	29.35 30.05	1,144.27	3.25	1.74	Filbert Pav. & Const. Co.	Aug. 27, 1918.
	‡High street	N. B. L. Lexington street	S. B. L. Hillen street	Sheet asphalt	1,052.02	30.10	3,628.48		1.74	Filbert Pav. & Const. Co.	Aug. 27, 1918.
	‡High street	N. B. L. Hillen street	S. B. L. Front street	Granite blocks	324.30 39.20	44.50 37.10	1,769.22		3.27	Cunningham P. & Con. Co.	Oct. 8, 1918.
65	‡High street	N. B. L. Eastern avenue	S. B. L. Pratt street	Sheet asphalt	925.35	30.17	3,066.03	1.59 3.60	1.59 2.15	Southern Pav. & Const. Co.	July 29, 1919.
40	‡High street	W. B. L. Front street	E. B. L. Fallsway	Granite blocks	212.00	50.00	926.68	3.60	3.50	Standard Contr. Co.	Mar. 11, 1919.
153	‡Hill street	E. B. L. Sharp street	W. B. L. Charles street	Granite blocks	687.60	49.00	3,618.66		3.42	Patrick F. Reddington	Oct. 14, 1919 (182).
141	‡Hilldale avenue	E. B. L. Reisterstown Road	W. B. L. Park Hgts. avenue	Sheet asphalt	342.00	30.00	1,212.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
121	‡Hillen street	E. B. L. Fallsway	W. B. L. Ensor street	Sheet asphalt	2,159.27	varies	9,236.12	3.17 1.45	1.45 1.80	P. Flanigan & Sons	Dec. 8, 1920 (277).
	‡Hilton street	S. B. L. Liberty Heights	N. B. L. Powhatan avenue	Sheet asphalt	1,427.00	32.00	5,233.00		1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
	‡Hilton street	N. B. L. Morris avenue	S. B. L. Windsor avenue	Sheet asphalt	1,627.00	32.00 29.00	5,975.00		1.78	J. H. Cranford Const. Co.	Nov. 18, 1918 (52).
141	‡Hilton street	S. C. L. Edmondson avenue	N. B. L. Wesley street	Sheet asphalt	1,197.00	40.00	5,426.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
	‡Hoffman street	E. B. L. Greenmount avenue	W. B. L. Eden street	Sheet asphalt	2,301.15	30.10	8,424.68		**.79	Elder Pav. & Contr. Co.	Jan. 15, 1918 (121).
	‡Hoffman street	E. B. L. Caroline street	W. B. L. Bond street	Sheet asphalt	335.45	39.42	1,571.41		**.79	Elder Pav. & Contr. Co.	Jan. 15, 1918 (122).
	‡Hoffman street	E. B. L. Eutaw street	W. C. L. Brevard street	Sheet asphalt Vitrified blocks	1,313.90	39.12	5,807.20 203.70		.80	F. E. Schneider Pav. Co.	Aug. 28, 1917.
	*Hopkins Oval	N. C. L. 33rd street	N. side Hopkins Oval	Bit. concrete	63.68	varies	1,910.50		.90	F. E. Schneider Pav. Co.	Nov. 21, 1918 (148).
	Holbrook avenue	N. B. L. Hoffman street	S. B. L. Lamont avenue	Sheet asphalt	1,321.05	30.20	4,586.34		**.93	Filbert Pav. & Const. Co.	Feb. 12, 1918 (68, 123, 129).
82	‡Holliday street	N. B. L. Pleasant street	S. B. L. Centre street	Granite blocks	927.10	41.77	4,228.34		2.45	James Quinn	Sept. 30, 1919.
115	‡Holliday street	N. B. L. Fayette street	N. C. L. Lexington street	Sheet asphalt	276.20	47.50	1,541.89	1.65 3.75	.70 2.10	P. Flanigan & Sons	Sept. 16, 1920 (236).
132	‡Hollins street	W. C. L. Calverton Road	W. B. L. Carrollton avenue	Sheet asphalt	3,837.65	38.89	17,711.95		1.17 1.95	P. Flanigan & Sons	Nov. 1, 1921 (304).
	‡Hollins street	W. B. L. Fremont street	About 382 ft. westwardly	Vitrified blocks	381.35	38.50	1,630.90	1.94	1.79	Cunningham P. & Con. Co.	Aug. 27, 1918.
141	‡Holmes avenue	N. B. L. Mondawmin avenue	S. B. L. Auchentoroly Ter.	Sheet asphalt	786.00	36.00	3,204.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
146	‡Homestead street	N. B. L. Harford Road	E. B. L. Polk street	Sheet asphalt	662.00	25.00	1,466.00		1.42 2.15	P. Flanigan & Sons	Sept. 17, 1921.
	‡Homewood avenue	N. B. L. Eager street	S. B. L. Chase street	Sheet asphalt	434.55	39.75	1,962.58		.93	Filbert Pav. & Const. Co.	Feb. 12, 1918 (122, 129).
67n	‡Homewood avenue	N. B. L. Chase street	S. B. L. Hoffman street	Sheet asphalt	1,050.75	39.45	807.92		1.53 2.19	Southern Pav. & Const. Co.	Sept. 2, 1919 (155).
76	‡Howard street	N. B. L. Baltimore street	S. B. L. Armory Place	Sheet asphalt	4,242.25	48.48 37.70	21,053.86	1.98 3.50	1.98 2.25	Balto. A. B. & Tile Co.	Aug. 19, 1919.
76	‡Howard street	NE. B. L. Richmond street	W. B. L. Park avenue	Sheet asphalt	423.18	37.45	1,997.36	1.70 3.50	1.98 2.25	Balto. A. B. & Tile Co.	Aug. 19, 1919.
85	‡Howard street	E. B. L. Park avenue	W. B. L. Cathedral street	Sheet asphalt	114.00	34.93	450.21		1.84 2.30	P. Flanigan & Sons	Sept. 30, 1919.
73	‡Hughes street	E. B. L. Light street	W. B. L. Key Highway	Sheet asphalt	262.80	38.65	1,082.47		1.60 2.22 2.30	American P. & Contr. Co.	Jan. 27, 1920.

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
114	‡Hull street	N. B. L. Fort avenue	S. B. L. Nicholson street	Sheet asphalt	1,912.30	38.58	8,114.02		1.40 2.00	P. Flanigan & Sons	Sept. 29, 1920 (241).
120	‡Hunter alley	N. B. L. Read street	S. B. L. Preston street	Vitrified blocks	1,574.20	17.70	3,263.23		2.10	M. J. Beach	Nov. 17, 1920 (242).
	‡Huntingdon avenue	N. C. L. 23rd street	S. C. L. 24th street	Sheet asphalt	340.00	20.00	772.00			B. & O. R. R.—P. Flanigan & Sons	Dec. 29, 1920.
	‡Huntingdon avenue	100 ft. W. of W. B. L. Oak street	S. B. L. 31st street	Sheet asphalt	2,476.00	52.00	9,260.00		1.86	F. E. Schneider Pav. Co.	Aug. 12, 1917.
	‡Huntingdon avenue	100 ft. W. of W. B. L. Oak street	S. B. L. 31st street	Granite blocks	2,476.00	Ry. Tr.	4,513.00	3.20		F. E. Schneider Pav. Co.	Aug. 12, 1917.
112	†Intersection Patterson	Park ave. and Orleans street		Sheet asphalt	94.40	39.35	424.09	3.40	1.49 2.15	P. Flanigan & Sons	Sept. 8, 1920 (248).
112	†Intersection Franklin	street and Gilmor street		Sheet asphalt	84.05	35.10	337.89	2.30	1.49	P. Flanigan & Sons	Sept. 8, 1920 (249).
112	†Intersection Mulberry	street and Gilmor street		Sheet asphalt	80.05	29.70	282.01	2.30	1.49 2.15	P. Flanigan & Sons	Sept. 8, 1920 (249).
112	†Intersection Calhoun	street and Fayette street		Sheet asphalt	109.50	39.70	473.07	2.30	1.49 2.15	P. Flanigan & Sons	Sept. 8, 1920 (249).
115	†Intersection Fayette	street and Caroline street		Sheet asphalt	46.40	48.95	462.74	3.40 1.65	1.60	P. Flanigan & Sons	Sept. 16, 1920 (237).
112	†Intersection Franklin	street and Carrollton avenue		Sheet asphalt	81.40	35.80	335.87	3.25 1.49	1.49	P. Flanigan & Sons	Sept. 8, 1920 (250).
112	†Intersection Franklin	street and Schroeder street		Sheet asphalt	85.55	35.35	345.73	3.25	1.49 2.15	P. Flanigan & Sons	Sept. 8, 1920 (250).
112	†Intersection Mulberry	street and Carrollton avenue		Sheet asphalt	78.80	30.20	286.15	3.25	1.49 2.15	P. Flanigan & Sons	Sept. 8, 1920 (250).
112	†Intersection Calhoun	street and Saratoga street		Sheet asphalt	90.45	38.50	370.37	3.25	1.49 2.15	P. Flanigan & Sons	Sept. 8, 1920 (250).
109	†Intersection Eastern	avenue and Lakewood avenue		Sheet asphalt	68.90	41.80	329.16	3.30 1.65	1.65 2.17	American P. & Contr. Co.	Sept. 8, 1920.
116	†Jefferson street	E. B. L. Wolfe street	W. B. L. Patt. Pk. avenue	Sheet asphalt	1,563.60	36.04	6,674.00	1.76 .77	1.83	P. Flanigan & Sons	July 23, 1918 (1).
137	‡Jefferson street	E. B. L. Aisquith street	W. B. L. Broadway	Sheet asphalt	2,010.40	35.64	8,582.20	2.30	2.22 .77	P. Flanigan & Sons	July 23, 1918 (1).
	Jefferson street	W. B. L. Patt. Pk. avenue	W. B. L. Milton avenue	Sheet asphalt	732.60	35.97	3,151.94	2.25	**.93	Filbert Pav. & Const. Co.	Feb. 12, 1918 (124).
86	‡Jenkins alley	N. B. L. Dolphin street	S. B. L. Laurens street	C'm't concrete	2,014.00	16.51	3,634.92		1.20 2.50	David M. Andrew Co.	Sept. 24, 1919 (201).
	Jenkins alley	N. B. L. Preston street	S. B. L. Hoffman street	Vitrified blocks	329.35	11.90	444.70		1.90	Consolidated Engr. Co.	July 16, 1917.
	John street	N. B. L. Lanvale street	S. B. L. North avenue	Sheet asphalt	1,603.78	38.33	6,713.50	1.55	1.55	Balto. A. B. & Tile Co.	Dec. 21, 1918 (65).
	John street	N. B. L. Dolphin street	S. B. L. Lanvale street	Vitrified blocks	341.55	38.75	1,524.80		2.20	Balto. A. B. & Tile Co.	Dec. 31, 1918.
	Kate avenue	E. B. L. Park Hghts. avenue	W. C. L. Old Pimlico Road	Sheet asphalt	373.00	24.00	1,005.00		1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
	‡Kathland avenue	W. B. L. Oakfield avenue	Western City Limits	Bit. concrete	399.00	24.00	1,073.00		1.60	J. H. Cranford Const. Co.	Dec. 11, 1918.
	Kenwood avenue	N. B. L. Baltimore street	S. B. L. Fairmount avenue	Gunite	334.20	42.03	1,570.04		.60 .80	F. E. Schneider Pav. Co.	Nov. 7, 1917 (105).
1	*Key Highway	S. B. L. Lee street	N. B. L. Montgomery street	Granite blocks	2,213.00	75.00	23,615.30		3.60 2.50	Consolidated Engr. Co.	July 15, 1919.
	Lafayette avenue	Aisquith street	Broadway	Bit. concrete	1,831.43	39.45	8,573.77		4.90	Warner-Quinlan Asph. Co.	Nov. 12, 1918 (34).
	Lafayette avenue	E. B. L. Maryland avenue	W. B. L Greenmount avenue	Sheet asphalt	2,099.70	39.30	9,599.80	2.25	1.55	Balto. A. B. & Tile Co.	Dec. 31, 1918 (66).
	†Lanvale street	E. B. L. Ensor street	W. B. L. Broadway	Bit. concrete	1,775.60 370.65	39.40 29.93	9,668.90		4.90	Warner-Quinlan Asph. Co.	Nov. 12, 1918.
	†Lanvale street	E. B. L. Park avenue	W. B. L. Mt. Royal avenue	Sheet asphalt	711.15	38.85	3,245.40		1.62	Balto. A. B. & Tile Co.	Nov. 26, 1918 (41, 42).
	†Lanvale street	E. B. L. Linden avenue	W. B. L. Park avenue	Sheet asphalt	645.80	39.05	2,893.30		1.65	U. S. Asph. Refining Co.	Dec. 3, 1918 (36).
	†Lanvale street	E. B. L. Madison avenue	W. B. L. Eutaw Place	Sheet asphalt	289.20	38.80	1,300.30		1.65	U. S. Asph. Refining Co.	Dec. 3, 1918.
105	†Lanvale street	E. B. L. Druid Hill avenue	W. B. L. Madison avenue	Sheet asphalt	530.95	38.58	2,139.61		1.53 2.22	Balto. A. B. & Tile Co.	June 23, 1920 (261).
101	†Latrobe street	N. B. L. Oliver stret	S. B. L. Lafayette avenue	Vitrified blocks	1,063.60	15.90	1,996.81		2.08 2.20	M. J. Beach Co.	Mar. 24, 1920 (264).
	†Laurens street	E. B. L. Eutaw Place	W. B. L. Linden avenue	Sheet asphalt	287.80	38.85	1,290.40		1.70	P. Flanigan & Sons	July 23, 1918 (131).
	†Laurens street	E. B. L. Penna. avenue	W. B. L. Druid Hill avenue	Sheet asphalt	801.95	39.34	3,731.60		1.70	P. Flanigan & Sons	July 23, 1918 (131).
	†Laurens street	E. B. L. Linden avenue	W. B. L. Bolton street	Sheet asphalt	319.90	38.93	1,453.30		1.62	Balto. A. B. & Tile Co.	Nov. 26, 1918.
74	†Laurens street	E. B. L. Druid Hill avenue	W. B. L. Eutaw Place	Sheet asphalt	857.80	39.17	3,529.10		2.18 2.25	American P. & Contr. Co.	Sept. 24, 1919 (189).
73	†Leadenhall street	N. B. L. Ostend street	S. B. L. Montgomery street	Sheet asphalt	1,680.20	38.67	7,244.29		1.60 2.22 2.30	American P. & Contr. Co.	Jan. 27, 1920 (217).
80	†Leadenhall street	B. & O. R. R. Stockholm street	S. B. L. Ostend street	Granite blocks	295.95	39.55	1,309.99		3.00	M. J. Beach	Nov. 18, 1919.

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
	Lemmon street	W. C. L. Greene street	N. B. L. Fremont street	Vitrified blocks	225.85 809.15	18.11 12.03	1,941.60	.....	2.06	M. J. Beach	Dec. 10, 1917 (138).
140	Lexington street	E. B. L. Eutaw street	W. B. L. Liberty street	Sheet asphalt	955.30	38.37	4,089.30	1.76	1.76 2.45	P. Flanigan & Sons	Dec. 20, 1921 (300).
29	Lexington street	E. B. L. Aisquith street	W. B. L. Central avenue	Vitrified blocks	467.25	35.15	1,762.48	2.14	2.05	Cunningham P. & Con. Co.	Feb. 4, 1919.
78	Lexington street	E. B. L. Payson street	W. B. L. Fulton avenue	Sheet asphalt	986.65	38.73	4,159.10	.....	1.52 2.18	Balto. A. B. & Tile Co.	Sept. 24, 1919 (149).
	Liberty Heights avenue	E. C. L. Garrison avenue	W. B. L. Callaway avenue	Bit. concrete	1,061.00	32.00	3,775.00	.....	1.35	F. E. Schneider Pav. Co.	Nov. 14, 1917 (107).
93	Linden avenue	N. B. L. Monument street	S. B. L. Madison street	Sheet asphalt	323.50	29.80	1,070.33	.....	1.49 2.14	Southern Pav. & Const. Co.	Dec. 23, 1919 (281).
31	Linden avenue	N. B. L. Dolphin street	S. B. L. North avenue	Sheet asphalt	3,103.00	38.74	5,257.25 8,098.39	2.10 3.25	1.68	F. E. Schneider Pav. Co.	July 23, 1918 (134, 135).
	Linden avenue	N. B. L. Biddle street	N. B. L. Dolphin street	Sheet asphalt	1,189.10	38.97	5,080.83	2.20	1.70	Eastern Paving Co.	Dec. 3, 1918 (40, 41).
	Linwood avenue	N. B. L. Madison street	80 ft. S. of Ashland avenue	Sheet asphalt	241.50	32.00	906.52	.....	1.40	F. Novak	Aug. 9, 1917 (282).
	Lombard street	E. B. L. South street	W. B. L. Gay street	Granite blocks	80.05 304.45 150.55	54.40 76.50 35.30	3,620.21	.....	3.53	Geo. Long Contr. Co.	Dec. 17, 1918.
118	Lombard street	E. B. L. Exeter street	W. B. L. Washington street	Sheet asphalt	3,718.89	varies	12,617.96	3.55	1.39 2.20	P. Flanigan & Sons	Dec. 1, 1920 (231).
108	Lombard street	E. B. L. Paca street	E. B. L. Hopkins Place	Granite blocks	1,331.32	38.47	7,740.87	3.25	3.18	Slack & Slack	July 28, 1920.
	Lombard street	E. B. L. Fremont street	W. B. L. Paca street	Sheet asphalt	1,591.20	38.97	6,275.60	3.00	1.74 1.69	Warner-Quinlan Asph. Co.	Aug. 27, 1918 (11, 13).
	Lombard street	E. B. L. Chester street	W. B. L. Patt. Pk. avenue	Sheet asphalt	833.05	36.20	39.40 3,344.10	2.25	1.74	Warner-Quinlan Asph. Co.	Feb. 10, 1918 (84, 119).
	Lombard street	W. B. L. Chester street	E. B. L. Washington street	Bit. concrete	423.35	36.12	1,748.62	.....	1.38	Filbert Pav. & Const. Co.	July 23, 1918 (132).
	Longwood street	S. B. L. North avenue	N. B. L. Westwood avenue	Bit. concrete	273.00	39.60	1,144.00	.....	1.24	F. E. Schneider Pav. Co.	Aug. 12, 1918.
	Longwood street	N. B. L. Clifton avenue	S. B. L. Windsor avenue	Sheet asphalt	321.00	32.00	1,227.00	.....	1.65	American P. & Contr. Co.	Nov. 7, 1919.
	Longwood street	S. B. L. Baker street	N. B. L. Belmont avenue	Sheet asphalt	697.00	32.00	2,589.00	.....	1.60	Balto. A. B. & Tile Co.	Nov. 27, 1919 (197).
134	Lovegrove alley	N. B. L. Centre street	S. B. L. Peabody alley	C'm't concrete.	121.00	15.50	208.39	.....	1.05	P. F. Reddington	Nov. 1, 1921.
91	Lovegrove alley	S. B. L. Dark Lane	S. B. L. Saratoga street	Granite blocks	260.65	24.04	696.21	.....	1.38	Curry-Quinn Co.	Apr. 14, 1920.
96	Lovegrove alley	N. B. L. Branch alley	S. B. L. Eager street	C'm't concrete.	845.55	13.17	1,170.21	.....	1.13	Home Cement Works	June 30, 1920.
96	Lovegrove alley	N. B. L. Chase street	S. B. L. Biddle street	C'm't concrete.	323.15	15.03	541.28	.....	1.13	Home Cement Works	June 30, 1920.
97	Lovegrove alley	N. B. L. Biddle street	S. B. L. Preston street	Vitrified blocks	356.70	varies	511.36	.....	2.07	P. F. Reddington	July 7, 1920.
	Low street	S. B. L. East street	W. B. L. Aisquith street	Vitrified blocks	767.75	19.50	1,694.66	.....	2.09	Consolidated Engr. Co.	Sept. 17, 1918 (23).
58	Low street	S. B. L. Front street	W. B. L. East street	Vitrified blocks	912.60	18.74	1,981.04	.....	2.22	Standard Contr. Co.	Feb. 4, 1919.
	McCulloh street	N. B. L. Lafayette avenue	S. B. L. North avenue	Sheet asphalt	3,410.15	35.85	14,393.60	2.17	1.70 1.65	U. S. Asph. Refining Co.	Dec. 3, 1918 (37).
95	McElderry street	W. B. L. Linwood avenue	Loneys Lane	Sheet asphalt	1,307.60	30.58	4,438.78	.....	1.55 2.25	Balto. A. B. & Tile Co.	Jan. 6, 1920 (206).
	McElderry street	E. B. L. Aisquith street	W. B. L. Broadway	Bit. concrete	2,007.45	39.52	9,432.88	2.20	1.40	F. E. Schneider Pav. Co.	Oct. 8, 1918 (44, 132).
	McElderry street	E. C. L. Duncan street	E. B. L. Milton avenue	Sheet asphalt	1,358.65	39.40	6,448.60	2.25	**.75	Warner-Quinlan Asph. Co.	Feb. 19, 1918 (80, 119).
	McMechen street	S. B. L. Park avenue	W. side Malster avenue	Vitrified blocks	868.20	38.70	3,779.91	2.40	2.20	Standard Contr. Co.	Dec. 17, 1918 (60).
152	McMechen street	E. B. L. Penna. avenue	W. B. L. McCulloh street	Vitrified blocks	1,216.65	38.05	4,884.11	2.30 1.85	2.14	Thomas Mullan	July 8, 1919 (156).
40	McMechen street	E. B. L. McCulloh street	W. B. L. Park avenue	Vitrified blocks	1,472.97	38.52	6,367.12	2.19	2.11	Standard Contr. Co.	Mar. 11, 1919 (100).
67	McKim street	N. B. L. Madison street	S. B. L. Eager street	Sheet asphalt	859.55	17.80 38.70	549.88	2.23	1.62 2.19	Southern Pav. & Const. Co.	Sept. 2, 1919 (119).
123	Mace alley	N. B. L. Lafayette avenue	S. B. L. Trenton street	Vitrified blocks	143.85	18.35	364.13	.....	2.05	George Long Contr. Co.	Apr. 12, 1921.
96	Mace alley	N. B. L. Preston street	S. B. L. Mt. Royal avenue	C'm't concrete.	291.20	19.42	619.20	.....	1.13	Home Cement Works	June 30, 1920.
	Madison street	E. B. L. Greenmount avenue	W. B. L. Central avenue	Vitrified blocks	1,594.43	39.08	871.65 6,227.02	2.08 3.50	2.08	David M. Andrew Co.	Feb. 12, 1918 (125).
	Madison street	E. B. L. Broadway	W. B. L. Patt. Pk. avenue	Sheet asphalt	2,487.70	39.49	11,886.00	2.30	**.77	P. Flanigan & Sons	July 22, 1918.
	Madison street	W. B. L. Charles street	W. B. L. Cathedral street	Bit. concrete	348.85	38.95	1,584.00	.....	1.53	Filbert Pav. & Const. Co.	July 23, 1918 (132).
	Madison street	E. B. L. Gay street	W. B. L. Broadway	Sheet asphalt	1,497.40	38.80	7,013.54	2.35	1.74	Filbert Pav. & Const. Co.	Aug. 27, 1918 (7).
	Madison street	W. B. L. Constitution street	W. B. L. Greenmount avenue	Granite blocks	66.00 177.45 410.75	31.70 29.50 37.10	2,744.30	.....	3.45	P. F. Reddington	Sept. 24, 1918.
93	Madison street	E. B. L. Eutaw Place	W. B. L. Cathedral street	Sheet asphalt	1,170.85	39.28	4,974.29	.....	1.59 2.19	Southern Pav. & Const. Co.	Dec. 23, 1919 (101).
	Madison street	W. C. L. Calvert street	E. C. L. Charles street	Sheet asphalt	700.00	38.80	3,047.89	.....	1.10	Balto. A. B. & Tile Co.	May 18, 1920 (227).
	Madison street	E. B. L. Streeper street	80 ft. E. of Linwood avenue	Vitrified blocks	299.60	39.50	1,432.50	.....	2.10	F. Novak	Aug. 9, 1917 (282).
	Malakoff street	E. B. L. Washington street	W. B. L. Chester street	Bit. concrete	424.00	24.00	1,048.00	.....	1.24	P. F. Reddington	Aug. 12, 1918.
51	Maryland avenue	N. B. L. Chase street	S. B. L. Preston street	Sheet asphalt	708.20	38.62	3,132.71	1.85 2.25	1.85 2.25	F. E. Schneider Pav. Co.	Oct. 8, 1918 (134).

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
51	†Maryland avenue. . . .	N. C. L. Falls Road.	S. B. L. North avenue.	Sheet asphalt. .	611.60	38.85	2,659.89	1.85 2.25	1.85 2.25	F. E. Schneider Pav. Co. . .	Oct. 8, 1918 (134).
51	†Maryland avenue. . . .	P. R. R. Bridge.	N. C. L. Falls Road.	Granite blocks	78.35	38.90	407.28	3.50	3.50 2.25	F. E. Schneider Pav. Co. . .	Oct. 8, 1918 (134).
67	†Maryland avenue. . . .	N. B. L. Preston street.	S. B. L. Mt. Royal avenue. . .	Sheet asphalt. .	277.20	38.65	1,096.70	2.23 3.64	1.62 2.19	Southern Pav. & Const. Co.	Sept. 2, 1919 (170).
67	†Maryland avenue. . . .	N. B. L. Mt. Royal avenue. .	S. B. L. Oliver street.	Sheet asphalt. .	322.15	38.80	1,272.83	2.23 3.64	1.62 2.19	Southern Pav. & Const. Co.	Sept. 2, 1919 (171).
67	†Maryland avenue. . . .	S. B. L. Oliver street.	Bridge over Jones Falls.	Granite blocks	534.60	38.75	2,189.75	3.64	3.60	Southern Pav. & Const. Co.	Sept. 2, 1919 (152).
	†Mason alley.	N. B. L. Dolphin street.	S. B. L. Lafayette avenue. . .	C'm't concrete.	672.70	16.00	1,149.46	. . . . .	1.20	David M. Andrew Co.	Sept. 24, 1919.
86	†Mason alley.	N. B. L. Mosher street.	S. B. L. Laurens street.	C'm't concrete.	900.10	19.55	2,114.22	. . . . .	1.20	David M. Andrew Co.	Sept. 24, 1919 (201).
	†Mason alley.	N. B. L. Preston street.	S. B. L. Hoffman street.	Vitrified blocks	328.50	11.67	431.40	. . . . .	1.90	Consolidated Engr. Co. . . .	July 16, 1917.
	†Mason alley.	N. B. L. Ducatel street.	S. B. L. Whitelock street. . . .	Vitrified blocks	596.00	20.00	1,286.00	. . . . .	2.07	P. Flanigan & Sons.	Sept. 25, 1918.
122	†Mercer street.	E. B. L. Light street.	W. B. L. Calvert street.	Sheet asphalt. .	345.30	varies	775.45	. . . . .	1.53 2.25	Balto. A. B. & Tile Co. . . .	Dec. 15, 1920 (281).
	†Milton avenue.	N. B. L. Baltimore street. . .	S. B. L. McElderry street. . .	Sheet asphalt. .	2,035.10	41.92	10,022.30	. . . . .	**.74	Warner-Quinlan Asph. Co.	Feb. 10, 1918 (79).
	†Mondawmin avenue. . .	E. B. L. Garrison avenue. . .	W. B. L. Denison street.	Sheet asphalt. .	616.00	32.00	2,286.00	. . . . .	1.60	Balto. A. B. & Tile Co. . . .	Nov. 24, 1919.
	†Monroe street.	N. B. L. North avenue.	S. B. L. Clifton avenue.	Sheet asphalt. .	695.00	38.00	3,011.00	. . . . .	1.68	Union Paving Co.	Nov. 11, 1919.
	†Monroe street.	S. B. L. Eagle street.	Bridge over B. & O. R. R. . . .	Vitrified blocks	390.40	38.00	1,695.21	. . . . .	2.15	George Long Contr. Co. . . .	Sept. 10, 1918.
132	†Monroe street.	N. B. L. Frederick avenue. . .	S. B. L. Hollins street.	Sheet asphalt. .	62.80	38.00	276.32	. . . . .	1.17 1.95	P. Flanigan & Sons.	Nov. 1, 1921.
	*Monroe street.	S. C. L. Wilkens avenue. . . .	S. C. L. Eagle street.	Bit. concrete. .	306.30	20.00	680.68	. . . . .	.90	F. E. Schneider Pav. Co. . .	Oct. 2, 1918.
	†Montebello avenue. . . .	N. B. L. Cokesbury avenue. .	B. & O. R. R.	Sheet asphalt. .	1,164.00	34.00 40.00	5,360.00	. . . . .	1.65	P. Flanigan & Sons.	Oct. 15, 1919.
	Montford avenue.	N. B. L. Baltimore street. . . .	S. B. L. McElderry street. . . .	Sheet asphalt. .	2,032.60	41.86	10,116.70	. . . . .	**.74	Warner-Quinlan Asph. Co.	Feb. 19, 1918 (79).
73	†Montgomery street. . . .	W. B. L. Leadenhall street. .	W. B. L. Charles street.	Sheet asphalt. .	485.90	19.43 49.05	1,955.73	. . . . .	2.22 2.30	American P. & Contr. Co. .	Jan. 27, 1920 (209).
73	†Montgomery street. . . .	E. B. L. William street.	W. B. L. Battery avenue.	Sheet asphalt. .	301.10	49.60	1,658.58	. . . . .	1.60 2.30	American P. & Contr. Co. .	Jan. 27, 1920 (281).
146	‡Montpelier street.	W. C. L. Harford Road.	E. B. L. Polk street.	Sheet asphalt. .	673.00	24.00	1,877.00	. . . . .	1.42 2.15	P. Flanigan & Sons.	Sept. 1, 1921.
	*Montreal street.	E. B. L. Mt. Royal avenue. . .	S. B. L. North avenue.	Sheet asphalt. .	135.60	38.85	585.34	. . . . .	.84	Balto. A. B. & Tile Co. . . .	Aug. 11, 1921 (108).
93	†Monument street.	E. B. L. Eutaw street.	W. B. L. Howard street.	Sheet asphalt. .	371.75	38.51	1,535.23	. . . . .	1.59 2.19	Southern Pav. & Const. Co.	Dec. 23, 1919 (281).
70	†Monument street.	E. B. L. Wolfe street.	W. B. L. Milton avenue.	Sheet asphalt. .	2,393.45	38.89	9,552.58	2.40 1.62	1.62 2.35	Southern Pav. & Const. Co.	Oct. 21, 1919 (283).
	*Monument street.	W. B. L. Broadway.	E. B. L. Broadway.	Sheet asphalt. .	133.60	38.80	565.88	. . . . .	1.70	Balto. A. B. & Tile Co. . . .	Aug. 4, 1920 (284).
	†Monument street.	Fallsway.	W. B. L. Ensor street.	Granite blocks	1,544.65	39.20	7,041.24	. . . . .	3.12	Cunningham P. & Con. Co.	Jan. 14, 1919 (57).
141	‡Morris avenue.	N. B. L. Mondawmin avenue.	S. B. L. Auchentoroly Ter. . .	Sheet asphalt. .	711.00	36.00	3,035.00	. . . . .	1.17 1.95	P. Flanigan & Sons.	Sept. 27, 1921.
	†Morton street.	N. B. L. Lafayette avenue. .	S. B. L. Trenton street.	Vitrified blocks	173.25	16.93	326.10	. . . . .	2.17	Frank Marine.	July 8, 1919.
96	†Morton street.	N. B. L. Read street.	S. B. L. Eager street.	C'm't concrete.	433.50	12.10	582.95	. . . . .	1.13	Home Cement Works.	June 30, 1920.
97	†Morton street.	N. B. L. Chase street.	S. B. L. Oliver street.	Vitrified blocks	1,226.05	11.95	1,698.43	. . . . .	2.07	P. Flanigan & Sons.	July 7, 1920 (242).
105	†Mosher street.	E. B. L. Arlington avenue. . .	W. B. L. Division street.	Sheet asphalt. .	1,594.80	37.90 38.80	8,958.72	2.25 1.53	1.53 2.22	Balto. A. B. & Tile Co. . . .	June 23, 1920 (262).
126	†Mosher street.	W. B. L. Monroe street.	W. B. L. Arlington avenue. . .	Sheet asphalt.	3,233.20	39.00	14,010.53	3.04	1.05 1.85	American P. & Contr. Co. .	Aug. 23, 1921 (295).
93	†Mosher street.	E. B. L. Division street.	W. B. L. McCulloh street. . . .	Sheet asphalt. .	126.50	38.87	2,686.75	. . . . .	1.49 2.14	Southern Pav. & Const. Co.	Dec. 23, 1919 (204).
	†Mosher street.	E. B. L. McCulloh street.	W. B. L. Park avenue.	Bit. concrete. .	1,547.22	38.50	6,993.78	. . . . .	1.45	Elder Pav. & Contr. Co. . . .	Feb. 12, 1918 (126).
	Mosher street.	E. B. L. Park avenue.	W. B. L. Mt. Royal avenue. . .	Bit. concrete. .	705.60	39.04	3,260.44	. . . . .	1.25	Eastern Pav. Co.	Dec. 3, 1918 (41).
132	†Mount street.	N. B. L. Frederick avenue. . .	S. B. L. Baltimore street. . . .	Sheet asphalt. .	221.60	38.35	922.09	. . . . .	1.17 1.95	P. Flanigan & Sons.	Nov. 1, 1921.
	Mount street.	N. B. L. Riggs avenue.	S. B. L. Laurens street.	Bit. concrete. .	723.10	39.40	3,197.80	. . . . .	1.40	P. Flanigan & Sons.	July 23, 1918 (131).
	Mt. Holly street.	N. B. L. Clifton avenue.	S. C. L. Windsor Mill Road. .	Sheet asphalt. .	855.00	24.00	2,294.00	. . . . .	1.60	Balto. A. B. & Tile Co. . . .	Nov. 24, 1919.
	†Mt. Vernon Place.	W. B. L. St. Paul street.	E. B. L. Charles street.	Vitrified blocks	335.50 338.35	31.42 31.59	2,361.74	. . . . .	2.02	George Long Contr. Co. . . .	Sept. 10, 1918.
93	†Mulberry street.	W. B. L. Schroeder street. . .	W. B. L. Howard street.	Sheet asphalt. .	4,036.40	30.92 30.05	13,367.81 631.82	2.30	2.30	Southern Pav. & Const. Co.	Dec. 23, 1919 (102).
	†Mulberry street.	W. B. L. Payson street.	W. B. L. Pulaski street.	Sheet asphalt. .	397.00	30.00	1,386.52	. . . . .	1.74	W. M. Elder.	Nov. 25, 1917.
	†Mulberry street.	W. B. L. Fulton avenue.	E. C. L. Monroe street.	Sheet asphalt. .	447.45	30.15	1,526.00	. . . . .	1.65	U. S. Asph. Refining Co. . .	Dec. 3, 1918.
78	†Mulberry street.	W. B. L. Schroeder street. . .	E. B. L. Fulton avenue.	Sheet asphalt. .	3,089.60	29.98	1,641.60	. . . . .	1.52 2.18	Balto. A. B. & Tile Co. . . .	Sept. 24, 1919 (156).
135	†Myrtle avenue.	N. B. L. George street.	Near Fremont avenue.	Sheet asphalt. .	2,715.95	37.70	11,387.92	. . . . .	1.20 2.04	Balto. A. B. & Tile Co. . . .	Oct. 18, 1921 (289, 290).

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
112	†Myrtle avenue	N. B. L. Lexington street	S. B. L. George street	Sheet asphalt	1,463.60	varies	4,462.87		1.49 2.15	P. Flanigan & Sons	Sept. 8, 1920 (286).
	‡Newington avenue	E. B. L. Park avenue	W. B. L. Mt. Royal avenue	Bit. concrete	303.00	39.60	1,351.00		1.35	F. E. Schneider Pav. Co.	Jan. 10, 1918.
140	‡Norwood avenue	E. C. L. Harford Road	N. B. L. Cliftview avenue	Sheet asphalt	790.00	30.00	2,660.00		1.30	American P. & Contr. Co.	Sept. 29, 1920.
106	‡Nursery Lane	N. B. L. Biddle street	S. B. L. Preston street	Vitrified blocks	326.95	18.62	686.25		2.09	Slack & Slack	June 30, 1920.
	*Oak street	N. B. L. North avenue	S. B. L. 21st street	Sheet asphalt	674.30	36.08	2,723.24		.84	Balto. A. B. & Tile Co.	Oct. 26, 1921 (108).
	‡Oak street	N. B. L. 26th street	N. B. L. 27th street	Bit. concrete	462.00	39.60	2,042.00		1.24	Elder Pav. & Contr. Co.	Aug. 12, 1918.
	‡Oak street	N. C. L. University Pkwy.	S. B. L. Mallory Lane	Bit. concrete	1,504.00	30.00	4,796.00		1.45	P. Flanigan & Sons	Sept. 27, 1918.
138	‡Oakhurst avenue	N. B. L. Winchester street	S. B. L. Paterson avenue	Sheet asphalt	329.00	30.00	1,123.00		1.42	P. Flanigan & Sons	June 25, 1920.
	†Old York Road	N. B. L. Gorsuch avenue	North City Limits	Sheet asphalt	4,507.00	24.00	12,872.00		1.60	American P. & Contr. Co.	Dec. 15, 1919 (198).
	†Oliver street	E. B. L. Ensor street	S. B. L. Lamont avenue	Bit. concrete	691.30 105.55	29.96 39.35	3,004.32		4.90	Warner-Quinlan Asph. Co.	Nov. 12, 1918 (33).
	†Oliver street	E. B. L. Guilford avenue	W. B. L. Greenmount avenue	Bit. concrete	906.45	39.35	4,201.99		1.25	F. E. Schneider Pav. Co.	Oct. 8, 1918 (132).
	†Oliver street	E. F. R. Mt. Royal avenue	W. C. L. alley W. of Md. ave.	Granite blocks	245.45	39.70	1,165.20		2.97	Cunningham P. & Con. Co.	Sept. 4, 1917.
77	†Oliver street	Alley W. of Maryland avenue	W. B. L. Maryland avenue	Granite blocks	184.10	39.42	767.80		2.30	Frank Marine	July 8, 1919.
74	†Oliver street	E. B. L. Maryland avenue	W. B. L. Charles street	Sheet asphalt	361.40	39.30	1,457.80		1.64 2.30	American P. & Contr. Co.	Sept. 24, 1919 (149).
	‡Orem avenue	E. B. L. Reisterstown Road	E. B. L. Parkwood avenue	Sheet asphalt	526.00	24.00	5,959.00		1.52	F. E. Schneider Pav. Co.	Nov. 14, 1917.
	†Orleans street	E. B. L. Patt. Pk. avenue	W. B. L. Milton avenue	Sheet asphalt	665.85	39.40	3,103.37		.93	Filbert Pav. & Const. Co.	Feb. 12, 1918 (127, 129).
80	†Ostend street	E. B. L. Sharp street	E. B. L. Leadenhall street	Vitrified blocks	352.68	38.57	1,801.10	2.33 3.50	2.25	M. J. Beach	Nov. 18, 1919.
66	†Paca street	N. B. L. Baltimore street	N. B. L. Fayette street	Granite blocks	479.55	48.95	2,271.95	3.70	3.65	Patrick F. Reddington	July 29, 1919 (152).
	†Paca street	S. B. L. Baltimore street	N. B. L. Pratt street	Granite blocks	1,025.40	48.60	5,704.30	3.15	3.15	John E. Quinn	Dec. 6, 1917.
81	†Paca street	E. B. L. Fremont street	S. B. L. Pratt street	Vitrified blocks	1,911.30	43.93	7,905.36	2.33	2.21	P. F. Reddington	June 2, 1920 (266).
81	†Paca street	N. B. L. Fayette street	S. B. L. Franklin street	Vitrified blocks	1,764.25	49.12	8,793.05	2.33	2.21	P. F. Reddington	June 2, 1920 (266).
73	†Paca street	N. B. L. West street	W. B. L. Fremont avenue	Sheet asphalt	1,585.95	38.70	6,693.47		1.60 2.22 2.30	American P. & Contr. Co.	Jan. 27, 1920 (223).
128	†Paca street	N. B. L. Franklin street	S. B. L. Druid Hill avenue	Sheet asphalt	871.06	37.10	3,528.47	2.45 1.53	1.45 2.05	Balto. A. B. & Tile Co.	Aug. 23, 1921 (298).
84	†Park avenue	N. B. L. Lexington street	S. B. L. Centre street	Vitrified blocks	1,793.30	37.13	6,790.18	3.50 2.32 3.30	2.24	George Long Contr. Co.	Oct. 14, 1919.
85	†Park avenue	N. B. L. Richmond street	S. B. L. Lanvale street	Sheet asphalt	2,614.00	38.89	10,987.07	1.84 2.30	1.84 2.30	P. Flanigan & Sons	Sept. 30, 1919.
52	†Park avenue	N. B. L. Laurens street	S. B. L. North avenue	Vitrified blocks	176.55	39.55	775.84		2.06	Thomas Mullan	July 8, 1919.
	†Park avenue	N. B. L. Lafayette avenue	N. B. L. McMechen street	Sheet asphalt	740.10 8.50	38.50 123.00	4,046.73	2.25	1.65	U. S. Asph. Refining Co.	Dec. 3, 1918 (39, 76).
	†Park avenue	S. B. L. Lanvale street	S. B. L. Lafayette avenue	Sheet asphalt	399.20	38.80	1,753.17	2.10	1.68	F. E. Schneider Pav. Co.	July 23, 1918 (134).
	‡Parkwood avenue	N. C. L. Fulton avenue	S. C. L. Orem avenue	Sheet asphalt	877.00	24.00	2,849.00		1.52	F. E. Schneider Pav. Co.	Nov. 14, 1917.
80	†Patapsco street	N. B. L. West street	S. B. L. Hamburg street	Vitrified blocks	698.70	12.15	955.14		2.25	M. J. Beach	Nov. 18, 1919.
73	†Patapsco street	N. B. L. Fort avenue	S. B. L. West street	Sheet asphalt	1,115.05	30.14	3,645.09		1.60 2.30	American P. & Contr. Co.	Jan. 27, 1920 (219).
	‡Patterson Park Place	N. B. L. North avenue	Clifton Park	Sheet asphalt	579.00	20.00 24.00	1,525.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
	†Patterson Pk. avenue	S. B. L. Pratt street	S. B. L. Preston street	Sheet asphalt	5,480.45	41.80	25,571.29		2.20 1.62	F. E. Schneider Pav. Co.	Oct. 8, 1918 (43).
139	†Patterson Pk. avenue	N. B. L. North avenue	Clifton Park	Sheet asphalt	568.00	26.50	1,699.00		1.38	P. Flanigan & Sons	July 2, 1920.
109	†Patterson Pk. avenue	N. B. L. Essex street	S. B. L. Pratt street	Sheet asphalt	1,991.50	41.53	8,922.51	3.30 1.65	1.65 2.17	American P. & Contr. Co.	Sept. 8, 1920 (279).
	‡Payson street	S. B. L. North avenue	N. B. L. Westwood avenue	Bit. concrete	274.00	39.60	1,139.00		1.24	F. E. Schneider Pav. Co.	Feb. 26, 1918.
96	†Peabody alley	E. B. L. Charles street	W. B. L. St. Paul street	C'm't concrete	374.10	12.09	503.45		1.13	Home Cement Works	June 30, 1920.
112	†Pearl street	N. B. L. Saratoga street	W. B. L. Penna. avenue	Sheet asphalt	887.70	34.71	3,306.25		1.49 2.15	P. Flanigan & Sons	Sept. 8, 1920.
	*Pearl street	N. B. L. Lexington street	S. B. L. Saratoga street	Sheet asphalt	391.10	35.00	1,360.84		.84	Balto. A. B. & Tile Co.	Sept. 23, 1921 (108).
	†Penn street	S. B. L. German street	N. B. L. Pratt street	Sheet asphalt	718.10	32.70	2,688.00	2.20	1.74	Warner-Quinlan Asph. Co.	Aug. 27, 1918 (14).
	†Perry street	E. B. L. Bedford street	W. F. R. Charles street	Granite blocks	159.20	18.20	315.66		3.39	P. F. Reddington	Jan. 15, 1918.
116	†Philpot street	E. B. L. Point street	E. B. L. Thames street	Granite blocks	916.65	44.96	4,344.02	1.70	1.10	I. J. Smith & Co. Inc.	Nov. 17, 1920 (165).
	†Pine street	S. B. L. Saratoga street	N. B. L. German street	Sheet asphalt	1,894.92	30.10	4,921.70		2.10	Warner-Quinlan Asph. Co.	Aug. 27, 1918 (16).
112	†Pitcher street	E. B. L. Fremont street	W. B. L. Penna. avenue	Sheet asphalt	699.40	39.32	3,014.79		1.38 2.04	P. Flanigan & Sons	Sept. 8, 1920 (269).
82	†Pleasant street	E. B. L. Calvert street	W. B. L. Holliday street	Granite blocks	628.60	34.01	1,962.93		2.45	James Quinn	Sept. 30, 1919 (164, 165).
96	†Plover alley	N. B. L. Hamilton street	S. B. L. Richmond street	C'm't concrete	1,304.65	16.60	2,197.00		1.13	Home Cement Works	June 30, 1920 (232).
146	‡Polk street	S. B. L. Homestead street	S. B. L. Gorsuch avenue	Sheet asphalt	247.00	30.00	938.00		1.42 2.15	P. Flanigan & Sons	Sept. 17, 1921.

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
	‡Poplar Grove street	Edmondson avenue	North avenue	Sheet asphalt Granite blocks	5,267.00	39.60	17,668.00 4,158.00	3.10	1.68	F. E. Schneider Pav. Co.	Jan. 13, 1917.
	‡Poplar Grove street	N. B. L. Clifton avenue	S. B. L. Windsor avenue	Sheet asphalt	320.00	36.00	1,340.00		1.65	American P. & Contr. Co.	Nov. 7, 1919.
112	‡Poppleton street	N. B. L. Lexington street	S. B. L. Franklin street	Sheet asphalt	1,251.00	38.53	5,095.01	3.25	1.38 2.04	P. Flanigan & Sons	Sept. 8, 1920 (244, 245).
	‡Powhatan avenue	E. B. L. Grantley street	E. B. L. Denison street	Sheet asphalt	1,079.00	28.50	3,598.00		1.60	Balto. A. B. & Tile Co.	Nov. 28, 1919.
65	‡Pratt street	E. B. L. Central avenue	W. B. L. Broadway	Sheet asphalt	1,697.15	35.60	6,001.50	3.60	1.59	Southern Pav. & Const. Co.	July 29, 1919 (185).
	‡Pratt street	E. B. L. Garrison avenue	125 ft. eastward	Vitrified blocks	135.00	39.60	600.00		2.08	Penn-Mar Const. Co.	Nov. 14, 1917.
117	‡Pratt street	E. B. L. Howard street	W. C. L. Light street	Granite blocks	1,463.55	38.80	6,262.25	3.23	3.13	I. J. Smith & Co. Inc.	Sept. 8, 1920 (274).
125	‡Pratt street	E. B. L. Linwood avenue	East City Limits	Sheet asphalt	1,021.60	33.02	3,748.14		1.58 2.25	Balto. A. B. & Tile Co.	May 2, 1921 (299).
135	‡Presbury street	Alley W. of Payson street	W. B. L. Calhoun street	Sheet asphalt	1,564.30	24.40 38.30	6,182.51		1.27	Balto. A. B. & Tile Co.	Oct. 18, 1921 (289, 292).
	‡Presbury street	E. B. L. Ellamont street	W. B. L. Rosedale street	Sheet asphalt	392.00	30.00	1,247.00		1.65 2.29	American P. & Contr. Co.	Feb. 18, 1919 (153).
26	‡Presbury street	W. B. L. Smallwood street	E. B. L. Warwick avenue	Sheet asphalt	1,204.00	32.00	4,385.00		1.65 2.29	American P. & Contr. Co.	Feb. 18, 1919.
	‡Presbury street	E. B. L. Smallwood street	Alley W. of Payson street	Sheet asphalt	639.00	32.00	2,411.00		1.68	Union Paving Co.	Nov. 11, 1919.
	‡Presbury street	E. B. L. Hinton street	W. B. L. Ellamont street	Sheet asphalt	337.00	30.00	1,218.00		1.65	Balto. A. B. & Tile Co.	Nov. 27, 1919.
68	‡President street	N. B. L. Lancaster street	N. B. L. Fawn street	Granite blocks	1,413.14	35.74	5,596.73	2.35	2.38	John E. Quinn	Feb. 11, 1919 (146).
60	‡President street	N. B. L. Fawn street	S. B. L. Pratt street	Granite blocks	484.90	36.00	1,902.70	3.67	3.67	John E. Quinn	Jan. 6, 1920.
133	‡Presstman street	W. B. L. Smallwood street	E. B. L. Bentalou street	Sheet asphalt	338.00	39.60	1,498.00		1.68	Union Paving Co.	June 12, 1920.
74	‡Presstman street	E. B. L. Penna. avenue	W. B. L. Druid Hill avenue	Sheet asphalt	932.55	39.31	3,754.90		1.55 2.25	American P. & Contr. Co.	Sept. 24, 1919 (159).
	‡Presstman street	Old City Limits	W. B. L. Smallwood street	Sheet asphalt	602.00	39.60	2,787.00		1.68	Union Paving Co.	Nov. 11, 1919.
	‡Presstman street	W. B. L. Poplar Grove street	W. B. L. Rosedale street	Sheet asphalt	1,003.00	32.00	3,881.00		1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
	‡Presstman street	E. B. L. Druid Hill avenue	W. B. L. Linden avenue	Sheet asphalt	1,070.85	39.50	4,917.80		1.55	Balto. A. B. & Tile Co.	Dec. 31, 1918.
90	‡Preston street	E. B. L. Guilford avenue	P. R. R. Bridge	Sheet asphalt	513.30	39.30	2,060.85	2.30	1.63 2.30	D. M. Andrews Co.	Jan. 6, 1920 (226).
	Preston street	E. C. L. Eutaw street	W. B. L. Cathedral street	Sheet asphalt	1,518.90	39.20	1,650.10 5,094.90	2.20	1.70	F. E. Schneider Pav. Co.	Aug. 28, 1917 (128).
	‡Preston street	W. B. L. Valley street	W. B. L. Gay street	Vitrified blocks	3,449.65	39.10	15,704.90	1.94	1.79	Cunningham P. & Con. Co.	Aug. 27, 1918 (24, 67).
51	‡Preston street	W. B. L. Guilford avenue	E. B. L. Cathedral street	Sheet asphalt	1,638.45	38.89	7,048.93	1.85 2.25	1.85 2.25	F. E. Schneider Pav. Co.	Oct. 8, 1918 (131).
52	‡Preston street	Bridge over Jones Falls	W. B. L. Valley street	Vitrified blocks	1,253.95	39.17	5,091.97	2.30	2.14	Thomas Mullan	July 8, 1919 (167).
	‡Pulaski street	N. B. L. Lexington street	S. C. L. Saratoga street	Sheet asphalt	472.00	36.62	1,978.62		.84	Balto. A. B. & Tile Co.	Oct. 30, 1921 (108).
	‡Pulaski street	S. B. L. Westwood avenue	N. B. L. Baker street	Sheet asphalt	666.00	32.00	2,328.00		1.68	Union Paving Co.	Nov. 11, 1919.
	‡Pulaski street	S. B. L. North avenue	N. B. L. Westwood avenue	Bit. concrete	274.00	39.60	1,137.00		1.24	F. E. Schneider Pav. Co.	Feb. 26, 1918.
	Pulaski street	N. B. L. Franklin street	S. B. L. Edmondson avenue	Sheet asphalt	427.50	36.80	1,747.07		.84	Balto. A. B. & Tile Co.	Sept. 23, 1921 (108).
80	‡Race street	N. B. L. Cross street	W. B. L. Hanover street	Vitrified blocks	352.00	14.75	584.32		2.25	M. J. Beach	Nov. 18, 1919.
73	‡Race street	S. B. L. Clement street	S. B. L. Cross street	Sheet asphalt	1,158.50	39.44	4,929.31		1.60 2.22 2.30	American P. & Contr. Co.	Jan. 27, 1920 (218).
105	‡Read street	E. B. L. Cathedral street	E. B. L. Calvert street	Sheet asphalt	1,312.90	38.70	6,916.09	2.45 1.53	1.53 2.22	Balto. A. B. & Tile Co.	June 23, 1920 (259).
	‡Reisterstown Road (E. S.)	78 ft. N. of N. C. L. Fulton avenue	N. B. L. Ruskin avenue	Sheet asphalt	697.40	varies	947.04	1.63	1.63	Balto. A. B. & Tile Co.	Aug. 24, 1920 (285).
	‡Reservoir street	E. B. L. Callow avenue	W. B. L. Mt. Royal Terrace	Sheet asphalt	1,210.00	38.50	5,382.00		1.68	Union Paving Co.	Nov. 11, 1919 (199).
	Richmond street	W. B. L. Cathedral street	E. B. L. Howard street	Sheet asphalt	942.50	38.80	4,317.30	2.25	1.65	U. S. Asph. Refining Co.	Dec. 3, 1918 (76).
60	‡Ridgely street	N. B. L. Stockholm street	S. B. L. Fremont avenue	Granite blocks	2,212.95	38.95	9,153.70	3.67	3.67	John E. Quinn	Jan. 6, 1920.
	*Riverside avenue	S. C. L. Hamburg street	N. B. L. Fort avenue	Sheet asphalt	2,410.40	30.00	6,339.00			Balto. A. B. & Tile Co.	July 14, 1919 (192).
73	‡Riverside avenue	N. B. L. Hamburg street	S. C. L. Warren street	Sheet asphalt	174.90	40.15	753.81		1.60 2.30	American P. & Contr. Co.	Jan. 27, 1920 (281).
	‡Robert street	E. B. L. Eutaw street	W. B. L. Linden avenue	Sheet asphalt	279.95	39.45	1,293.30		1.55	Balto. A. B. & Tile Co.	Dec. 31, 1918.
74	‡Robert street	E. B. L. Linden avenue	W. B. L. Bolton street	Sheet asphalt	387.75	39.00	1,476.20		1.55 2.25	American P. & Contr. Co.	Sept. 24, 1919 (159).
74	‡Robert street	E. B. L. Penna. avenue	W. B. L. Madison avenue	Sheet asphalt	1,359.75	39.40	5,955.20		1.55 2.25	American P. & Contr. Co.	Sept. 24, 1919 (188).
	‡Roland avenue	S. B. L. 36th street	E. B. L. Hickory avenue	Sheet asphalt	871.00	32.00	3,200.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
142	‡Rosedale street	N. C. L. Edmondson avenue	40 ft. N. of Arunah avenue	Sheet asphalt	370.00	28.00	1,185.00		1.32	P. Flanigan & Sons	May 27, 1921.
156	‡Rosedale street	S. B. L. North avenue	N. B. L. Baker street	Sheet asphalt	1,006.60	32.00	3,704.00	2.35 3.25	1.65 2.29	American P. & Contr. Co.	Feb. 18, 1919 (151).
	‡Rosedale street	N. B. L. Clifton avenue	S. B. L. Windsor avenue	Sheet asphalt	322.00	32.00	1,185.00		1.65	American P. & Contr. Co.	Nov. 7, 1919.
	Rosedale street	S. B. L. Baker street	N. B. L. Belmont street	Sheet asphalt	697.00	32.00	2,546.00		1.60	Balto. A. B. & Tile Co.	Nov. 27, 1919 (200).

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
141	‡Rosehill Terrace.	E. C. L. Greenmount avenue.	W. B. L. Old York Road.	Sheet asphalt.	505.00	25.00	1,415.00	.....	1.17 1.95	P. Flanigan & Sons.	Sept. 27, 1921.
	†Rutland avenue.	N. B. L. Eager street.	S. B. L. Gay street.	Sheet asphalt.	1,108.60	41.37	5,456.37	.....	.93	Filbert Pav. & Const. Co.	Feb. 12, 1918 (69, 129).
112	†Rutland avenue.	N. B. L. Monument street.	S. B. L. Eager street.	Sheet asphalt.	1,162.15	41.45	5,101.34	.....	1.38 2.04	P. Flanigan & Sons.	Sept. 8, 1920 (246).
86	†Rutter alley.	N. B. L. Dolphin street.	S. B. L. McMechen street.	C'm't concrete.	1,378.30	14.79	2,268.96	.....	1.20	David M. Andrew Co.	Sept. 24, 1919 (178).
136	†Schroeder street.	N. B. L. Lexington street.	S. B. L. Harlem avenue.	Sheet asphalt.	1,843.80	38.57	8,080.10	1.62 3.90	1.53 2.20	Balto. A. B. & Tile Co.	Nov. 22, 1921 (303).
94	†St. Paul street.	N. C. L. Hamilton street.	S. B. L. Centre street.	Vitrified blocks	266.30	40.00	1,012.32	.....	2.19	P. F. Reddington.	June 2, 1920.
	†St. Paul street.	N. B. L. Saratoga street.	N. B. L. Franklin street.	Sheet asphalt.	1,040.50	25.55	3,186.80	.....	1.25 1.62	Balto. A. B. & Tile Co.	Nov. 26, 1918 (70).
106	†Sapp street.	N. B. L. Madison street.	S. B. L. Ashland avenue.	Vitrified blocks	320.70	9.64	348.47	.....	2.09	Slack & Slack.	June 30, 1920.
98	†Saratoga street.	E. B. L. Greene street.	W. B. L. Howard street.	Sheet asphalt.	1,067.30	38.60	4,098.34	2.25	1.78	Balto. A. B. & Tile Co.	Feb. 17, 1920 (208).
	†Saratoga street.	W. B. L. Charles street.	E. C. L. Liberty street.	Sheet asphalt.	353.40	28.70	1,107.43	.....	.....	Balto. A. B. & Tile Co.	Sept. 21, 1919 (287).
	†Saratoga street.	E. B. L. Calvert street.	W. B. L. Gay street.	Granite blocks	526.75 71.25 309.85	30.17 28.75 23.90	3,006.08	.....	3.45	P. Flanigan & Sons.	July 30, 1918 (17).
67	†Saratoga street.	E. B. L. Pulaski street.	W. B. L. Payson street.	Bit. concrete.	331.55	36.30	1,346.52	.....	1.59 2.19	Southern Pav. & Const. Co.	Sept. 2, 1919 (149).
55	†Saratoga street.	E. B. L. Charles street.	W. B. L. Calvert street.	Vitrified blocks	696.45	28.94	2,231.19	.....	2.21	P. F. Reddington.	May 27, 1919 (152).
53	†Sharp street.	N. B. L. Ostend street.	N. C. L. Hill street.	Granite blocks	2,966.35	38.55 38.53 37.95	12,389.01	3.42 1.05 3.63	3.42 3.63 1.05	P. F. Reddington.	Oct. 14, 1919.
	†Sharp street.	S. C. L. Camden street.	N. C. L. Hill street.	Granite blocks	1,573.50	38.68	6,814.20	3.26	3.16	Cunningham P. & Con. Co.	Sept. 4, 1917.
116	†Sharp street.	N. B. L. Pleasant street.	S. C. L. Mulberry street.	Granite blocks	191.90	11.47	245.86	.....	.90	I. J. Smith & Co. Inc.	Nov. 17, 1920 (165).
	†Sherman Place.	N. B. L. Lanvale street.	S. B. L. North avenue.	Vitrified blocks	518.60 177.00	12.24 16.17	.....	2.20	1,042.73	Standard Contr. Co.	Dec. 17, 1918.
	‡Shipley street.	N. B. L. Baltimore street.	S. B. L. Fayette street.	Bit. concrete.	414.00	21.00	900.00	.....	1.55	Penn-Mar Const. Co.	Dec. 19, 1918.
	†Smallwood street.	N. B. L. Baltimore street.	S. B. L. Fayette street.	Vitrified blocks	430.40	39.50	1,935.34	.....	2.15	Geo. Long Contr. Co.	Sept. 10, 1918.
126	Smallwood street.	S. B. L. Westwood avenue.	N. B. L. Presbury street.	Sheet asphalt.	274.00	39.60	1,511.00	.....	1.65	American P. & Contr. Co.	Feb. 18, 1919.
	‡Smallwood street.	S. B. L. North avenue.	N. B. L. Westwood avenue.	Bit. concrete.	340.00	39.60	1,182.00	.....	1.24	F. E. Schneider Pav. Co.	Feb. 26, 1918.
108	‡Smallwood street.	N. B. L. Walbrook avenue.	N. B. L. Clifton avenue.	Vitrified blocks	390.00	39.60	1,896.00	.....	2.18	Penn-Mar Const. Co.	Apr. 30, 1919 (152).
	‡Smallwood street.	N. B. L. Presbury street.	S. B. L. Presbury street.	Sheet asphalt.	67.00	39.60	404.00	.....	1.65	American P. & Contr. Co.	Feb. 18, 1919.
	‡Smallwood street.	S. B. L. Presbury street.	N. B. L. Presstman street.	Sheet asphalt.	894.00	32.00	3,293.00	.....	1.68	Union Paving Co.	Nov. 11, 1919.
	‡Smallwood street.	N. B. L. Clifton avenue.	S. B. L. Windsor avenue.	Sheet asphalt.	322.00	39.60	1,436.00	.....	1.68	Union Paving Co.	Nov. 11, 1919.
83	†South street.	N. B. L. Pratt street.	N. B. L. Lombard street.	Granite blocks	492.50	34.45	1,745.05	2.45	2.45	James Quinn.	Sept. 24, 1919.
89	†South street.	N. B. L. Lombard street.	S. B. L. Baltimore street.	Wood blocks.	593.30	34.24	2,143.87	2.35	2.75	Geo. Long Contr. Co.	Dec. 23, 1919.
106	†Spring street.	N. B. L. Lexington street.	S. B. L. Orleans street.	Vitrified blocks	487.55	17.78	893.51	.....	2.09	Slack & Slack.	June 30, 1920.
106	†Spring street.	N. B. L. Jefferson street.	S. B. L. McElderry street.	Vitrified blocks	321.20	16.00	563.49	.....	2.09	Slack & Slack.	June 30, 1920.
	‡Springdale avenue.	E. C. L. Garrison avenue.	W. B. L. Callaway avenue.	Bit. concrete.	640.00	30.00	2,136.00	.....	1.35	F. E. Schneider Pav. Co.	Nov. 14, 1917.
	‡Springdale avenue.	E. B. L. Callaway avenue.	W. B. L. Grantley street.	Bit. concrete.	655.00	30.00	1,819.00	.....	1.65	Balto. A. B. & Tile Co.	Dec. 11, 1918.
141	‡Springhill avenue.	E. B. L. Reisterstown Road.	W. B. L. Park Hgts. avenue.	Sheet asphalt.	368.60	30.00	1,320.00	.....	1.17 1.95	P. Flanigan & Sons.	Sept. 27, 1921.
123	†Stable alley.	N. B. L. Pratt street.	S. B. L. Lombard street.	Granite blocks	325.60	13.68	510.54	.....	1.00	Geo. Long Contr. Co.	Apr. 12, 1921.
	†Star Lane.	N. B. L. 22nd street.	S. B. L. Cokesbury street.	Sheet asphalt.	724.00	24.00	2,064.00	.....	1.65	P. Flanigan & Sons.	Oct. 15, 1919.
123	State street.	N. B. L. Saratoga street.	S. B. L. Franklin street.	Vitrified blocks	633.30	12.51	878.93	.....	2.05	Geo. Long Contr. Co.	Apr. 12, 1921 (268).
	†Streeper street.	N. B. L. Madison street.	80 ft. S. of Ashland avenue.	Sheet asphalt.	241.40	24.00	643.70	.....	1.40	F. Novak.	Aug. 9, 1917 (282).
126	†Stricker street.	S. B. L. Cole street.	S. B. L. Edmondson avenue.	Sheet asphalt.	4,605.15	38.75	19,827.73	3.04	1.12 1.97	American P. & Contr. Co.	Aug. 23, 1921 (293).
126	†Stricker street.	N. B. L. Harlem avenue.	W. B. L. Calhoun street.	Sheet asphalt.	3,375.00	38.58	14,467.50	3.04	1.05 1.89	American P. & Contr. Co.	Aug. 23, 1921 (294).
	†Talbott street.	N. B. L. 31st street.	S. B. L. 33rd street.	Sheet asphalt.	729.00	18.00 16.00 14.00	1,403.00	.....	1.65	P. Flanigan & Sons.	Oct. 15, 1919 (139).
146	‡Taylor street.	E. C. L. Homewood avenue.	E. B. L. Bartlett avenue.	Sheet asphalt.	975.00	32.00	3,760.00	.....	1.42 2.15	P. Flanigan & Sons.	Nov. 28, 1921.
82	†Terminal street.	E. B. L. Fallsway.	W. B. L. Constitution street.	Granite blocks	388.35	29.66	1,061.82	.....	2.45	James Quinn.	Sept. 30, 1919 (190).
100	†Thames street.	NE. B. L. Philpot street.	W. B. L. Broadway.	Granite blocks	1,176.15	varies	4,858.49	2.45	2.45	Consolidated Engr. Co.	Sept. 1, 1920.
124	†Thomas avenue.	S. B. L. North avenue.	N. B. L. Baker street.	Bit. concrete.	1,071.00	30.00	3,536.00	.....	1.65 2.25	Balto. A. B. & Tile Co.	Jan. 13, 1919 (150).
73	†Towson street.	N. B. L. Fort avenue.	S. B. L. Clement street.	Sheet asphalt.	486.85	39.35	2,085.43	.....	1.60 2.30	American P. & Contr. Co.	Jan. 27, 1920 (281).
123	†Trenton street.	E. B. L. Falls Road.	W. B. L. Maryland avenue.	Vitrified blocks	333.70	19.23	698.81	.....	2.00	Geo. Long Contr. Co.	Apr. 12, 1921.
120	†Trenton street.	W. B. L. Hargrove alley.	W. B. L. Calvert street.	Vitrified blocks	154.70	19.17	327.75	.....	2.10	M. J. Beach.	Nov. 17, 1920.

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
77	†Trenton street	E. B. L. Maryland avenue	W. B. L. Charles street	Vitrified blocks	324.50	13.88	492.70		2.17	Frank Marine	July 8, 1919.
	†Truxton street	E. B. L. Buren street	E. side Warden street	Vitrified blocks	130.40	36.20	524.63		2.11	P. F. Reddington	Aug. 20, 1918.
93	†Tyson street	NE. B. L. Richmond street	W. B. L. Cathedral street	Sheet asphalt	480.40	23.49	1,243.36		1.49 2.14	Southern Pav. & Const. Co.	Dec. 23, 1919 (205).
120	†Tyson street	N. B. L. Saratoga street	S. B. L. Centre street	Vitrified blocks	1,031.90	14.93	1,696.23		2.10	M. J. Beach Co.	Nov. 17, 1920 (242).
120	†Tyson street	N. B. L. Monument street	S. B. L. Richmond street	Vitrified blocks	1,077.30	13.52	1,554.12		2.10	M. J. Beach Co.	Nov. 17, 1920 (242).
	‡Twentieth street	E. B. L. Kennedy avenue	W. B. L. Aisquith street	Vitrified blocks	387.00	39.60	1,795.00		2.07	P. Flanigan & Sons	Sept. 25, 1918.
	*Twenty-first street	E. B. L. Charles street	W. B. L. St. Paul street	Sheet asphalt	389.80	36.00	1,591.42		1.74	Balto. A. B. & Tile Co.	Nov. 13, 1920 (283).
	‡Twenty-second street	W. B. L. Taylor street	172 ft. westward	Vitrified blocks	274.30	36.00	1,111.00		2.07	P. Flanigan & Sons	Feb. 26, 1918.
	‡Twenty-third street	E. B. L. Montebello street	W. B. L. Cokesbury avenue	Sheet asphalt	250.00	20.00	563.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
	‡Twenty-third street	E. B. L. Charles street	W. B. L. St. Paul street	Sheet asphalt	390.00	39.60	1,757.00		1.55	Balto. A. B. & Tile Co.	Nov. 7, 1919.
	‡Twenty-fourth street	E. B. L. St. Paul street	E. B. L. Guilford avenue	Sheet asphalt	674.00	39.60	2,981.00		1.55	Balto. A. B. & Tile Co.	Nov. 7, 1919 (140).
141	‡Twenty-sixth street	E. B. L. Huntingdon avenue	W. C. L. Oak street	Sheet asphalt	504.00	24.00	1,424.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
	‡Twenty-sixth street	E. B. L. Guilford avenue	E. C. L. Barclay street	Sheet asphalt	509.00	24.00	1,399.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
	‡Twenty-sixth street	E. B. L. Calvert street	W. B. L. Guilford avenue	Bit. concrete	327.00	39.60	1,340.00		1.24	Elder Pav. & Contr. Co.	Aug. 12, 1918.
141	‡Twenty-seventh street	W. B. L. Greenmount avenue	E. B. L. Barclay street	Sheet asphalt	415.00	32.00	1,296.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
141	‡Twenty-seventh street	E. B. L. Huntingdon avenue	W. B. L. Oak street	Sheet asphalt	624.00	32.00	2,211.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
	‡Twenty-seventh street	E. B. L. Calvert street	W. B. L. Guilford avenue	Bit. concrete	328.00	39.60	1,333.00		1.24	Elder Pav. & Contr. Co.	Aug. 12, 1918.
	‡Twenty-seventh street	W. B. L. Huntingdon avenue	E. B. L. Sisson street	Vitrified blocks	691.00	32.00	2,771.00		2.23	Thomas Mullan	Oct. 26, 1918 (53).
	‡Twenty-seventh street	E. C. L. Guilford avenue	W. B. L. Barclay street	Sheet asphalt	494.00	39.60	2,134.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
141	‡27½ street	E. B. L. Guilford avenue	W. B. L. Barclay street	Sheet asphalt	517.00	36.00	2,015.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
141 141	‡Twenty-eighth street ‡Twenty-eighth street	E. B. L. Guilford avenue E. B. L. Barclay street	W. B. L. Barclay street W. C. L. Greenmount avenue	Sheet asphalt Sheet asphalt	934.00	39.60	4,093.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
	‡Twenty-eighth street	E. B. L. Calvert street	W. B. L. Guilford avenue	Bit. concrete	327.00	39.60	1,351.00		1.55	Balto. A. B. & Tile Co.	Nov. 1, 1918.
	‡Twenty-eighth street	W. B. L. Huntingdon avenue	E. B. L. Hampden avenue	Bit. concrete	320.00	32.00	1,158.00		1.24	Elder Pav. & Contr. Co.	Feb. 26, 1918.
141	‡28½ street	E. B. L. Guilford avenue	W. B. L. Barclay street	Sheet asphalt	538.00	36.00	2,096.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
	‡Twenty-ninth street	W. B. L. Huntingdon avenue	W. B. L. Hampden avenue	Vitrified blocks	353.00	32.00	1,645.00		2.05	Elder Pav. & Contr. Co.	June 21, 1918.
	‡Thirtieth street	E. B. L. Guilford avenue	W. C. L. Greenmount avenue	Sheet asphalt	1,052.00	39.60	4,884.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
	‡Thirtieth street	E. B. L. Calvert street	W. B. L. Guilford avenue	Bit. concrete	321.00	39.60	1,409.00		1.55	Balto. A. B. & Tile Co.	Nov. 1, 1918.
	‡Thirty-first street	E. Car Tr. Huntingdon ave.	W. C. L. Remington avenue	Sheet asphalt	384.00	36.00	1,595.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
141	‡Thirty-second street	E. C. L. St. Paul street	E. B. L. Calvert street	Sheet asphalt	321.00	32.00	1,308.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
	‡Thirty-second street	E. B. L. Calvert street	E. C. L. Barclay street	Sheet asphalt	1,043.00	32.00	4,302.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
	‡Thirty second street	E. B. L. Charles street	W. C. L. St. Paul street	Sheet asphalt	354.00	32.00	1,256.00		1.67	F. E. Schneider Pav. Co.	Oct. 15, 1917.
	‡Thirty-third street	E. B. L. Charles street	W. C. L. St. Paul street	Sheet asphalt	354.00	40.00	1,747.00		1.67	F. E. Schneider Pav. Co.	Oct. 15, 1917.
124	‡Thirty-third street	E. B. L. Greenmount avenue	W. C. L. Hugo avenue	Sheet asphalt	7,430.00	22.40	46,198.00		1.64	American P. & Contr. Co.	Nov. 12, 1920 (73).
120	‡Thirty-fourth street	E. B. L. Cedar avenue	W. B. L. Dulin avenue	Bit. concrete	300.00	36.00	1,144.00		1.49	Balto. A. B. & Tile Co.	June 27, 1919.
	‡Thirty-fourth street	E. B. L. Charles street	W. B. L. St. Paul street	Sheet asphalt	279.00	30.00	928.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
	‡Thirty fourth street	E. C. L. Greenmount avenue	W. B. L. Tinges Lane	Sheet asphalt	1,846.00	32.00	6,378.00		1.56	P. Flanigan & Sons	Dec. 12, 1917.
	‡Thirty-fourth street	W. B. L. Chestnut avenue	W. B. L. Elm avenue	Bit. concrete	510.00	36.00	1,912.00		1.24	Elder Pav. & Contr. Co.	Aug. 12, 1918.
	‡Thirty-fifth street	E. B. L. Greenmount avenue	W. B. L. Old York Road	Sheet asphalt	313.00	39.60			1.60	American P. & Contr. Co.	Oct. 1, 1919.
120	‡Thirty-sixth street	E. B. L. Chestnut avenue	W. B. L. Cedar avenue	Bit. concrete	823.00	36.00	1,211.00		1.49	Balto. A. B. & Tile Co.	June 27, 1919.
133	‡Thirty-sixth street	W. B. L. Falls Road	E. C. L. Sweet Air street	Sheet asphalt	912.00	32.00	3,315.00		1.60	American P. & Contr. Co.	July 20, 1920.
	‡Thirty-seventh street	W. C. L. Charles street	E. B. L. University Pkwy.	Sheet asphalt	254.00	40.00	1,151.00		1.69	P. Flanigan & Sons	Oct. 7, 1919.
	‡Thirty-eighth street	W. B. L. Hickory avenue	E. B. L. Falls Road	Sheet asphalt	280.00	24.00 18.00	716.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
	‡Thirty-eighth street	E. B. L. Hickory avenue	W. B. L. Elm avenue	Bit. concrete	785.00	24.00	1,937.00		1.57	Warner-Quinlan Asph. Co.	Dec. 11, 1918.
141	‡Thirty-eighth street	E. C. L. Greenmount avenue	W. B. L. Old York Road	Sheet asphalt	519.00	30.00	1,772.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
129	Union avenue	W. B. L. Roland avenue	E. B. L. Hickory avenue	Sheet asphalt	394.00	24.00	1,079.00		1.65	P. Flanigan & Sons	Oct. 15, 1919.
141	‡Ulman avenue	E. B. L. Reisterstown Road	W. B. L. Park Hgts. avenue	Sheet asphalt	349.00	30.00	1,254.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
	†Valley street	S. B. L. Hoffman street	N. B. L. Chase street	Bit. concrete	645.70 322.90	39.60 30.07	3,983.08		4.90	Warner-Quinlan Asph. Co.	Nov. 12, 1918 (34).
141	‡Violet avenue	E. B. L. Reisterstown Road	W. B. L. Park Hgts. avenue	Sheet asphalt	358.00	30.00	1,323.00		1.17 1.95	P. Flanigan & Sons	Sept. 27, 1921.
	‡Walbrook avenue	E. B. L. Bentalou street	121 ft. eastwardly	Sheet asphalt	121.00	39.60	559.00		1.68	Union Paving Co.	Nov. 11, 1919.
	‡Walbrook avenue	W. B. L. Edgewood avenue	E. B. L. Grantley street	Sheet asphalt	648.00	32.00	2,378.00		1.60	Balto. A. B. & Tile Co.	Nov. 24, 1919.
	†Warden street	N. C. L. Truxton street	S. B. L. Eager street	Vitrified blocks	250.10	30.50	841.45		2.11	P. F. Reddington	Aug. 20, 1918.

IMPROVED PAVEMENTS UNDER GUARANTY, JANUARY 1, 1917.—Continued.

Contract.	Street.	From	To	Pavement.	Feet. in Length.	Feet. in Width.	Square Yards.	Price Per Yard. Railway Area.	Price Per Yard. City Area.	Contractor.	Guaranty Expires.
73	†Warner street.	N. B. L. Stockholm street. . .	S. B. L. Columbia avenue. . . .	Sheet asphalt. .	3,584.25	32.65	13,568.69	. . . . .	1.60 2.22 2.30	American P. & Contr. Co. .	Jan. 27, 1920 (215).
118	†Washington street. . . .	S. C. L. Pratt street.	S. B. L. Fayette street.	Sheet asphalt. .				3.55	1.39	P. Flanigan & Sons.	Dec. 1, 1920 (232).
118	†Washington street. . . .	N. B. L. Gough street.	S. C. L. Pratt street.	Vitrified blocks				3.55	2.00	P. Flanigan & Sons.	Dec. 1, 1920 (233).
118	†Washington street. . . .	N. B. L. Aliceanna street. . . .	S. B. L. Gough street.	Sheet asphalt. .	4,070.71	varies	18,247.24	3.55	1.39	P. Flanigan & Sons.	Dec. 1, 1920 (234).
118	†Washington street. . . .	130 ft. S. of Aliceanna street	N. B. L. Aliceanna street. . . .	Granite blocks				3.55	3.50	P. Flanigan & Sons.	Dec. 1, 1920.
122	†Water street.	E. B. L. Light street.	W. B. L. Calvert street.	Sheet asphalt. .	344.10	29.70	1,132.32	. . . . .	2.38	Balto. A. B. & Tile Co. . . .	Dec. 15, 1920 (281).
91	†Water street.	E. B. L. Calvert street.	W. B. L. South street.	Granite blocks	379.85	29.70	869.92	. . . . .	1.53 2.25	Curry-Quinn Co.	Apr. 14, 1920.
	†Water street.	E. B. L. Gay street.	W. B. L. Market Place. .	Granite blocks Vitrified blocks	410.85	30.20	588.25 787.21	. . . . .	3.27	Geo. Long Contr. Co.	July 2, 1918 (81).
	†Water street.	W. B. L. Gay street.	E. B. L. South street.	Wood blocks. .	527.45	28.46	1,750.87	2.90	2.90	Geo. Long Contr. Co.	Mar. 11, 1919.
58	†Watson street.	E. B. L. High street.	W. B. L. Central avenue. . . .	Vitrified blocks	1,182.50	22.60	3,089.00	. . . . .	2.22	Standard Contr. Co.	Feb. 4, 1919.
124	‡Warwick avenue.	S. B. L. North avenue.	N. B. L. Baker street.	Bit. concrete. .	1,072.00	39.60	4,565.00	. . . . .	1.65 2.25	Balto. A. B. & Tile Co. . . .	Jan. 13, 1919 (150).
	Warwick avenue.	N. B. L. Edmondson avenue.	S. B. L. Arunah avenue.	Bit. concrete. .	200.60		. . . . .	. . . . .	1.65 2.25	Balto. A. B. & Tile Co. . . .	Jan. 13, 1919 (150).
	‡Warwick avenue.	N. B. L. Arunah avenue.	S. B. L. Harlem avenue.	Sheet asphalt. .	189.00	39.60	813.00	. . . . .	1.58	Union Paving Co.	Nov. 11, 1919.
141 141	‡West avenue.	E. B. L. Penna. avenue.	W. B. L. Morris avenue. . .	Sheet asphalt. .	514.00	24.00	1,420.00	. . . . .	1.17 1.95	P. Flanigan & Sons.	Sept. 27, 1921.
	‡West avenue.	E. B. L. Morris avenue.	W. B. L. Holmes avenue. . .								
73	†West street.	E. B. L. Sharp street.	W. B. L. Light street.	Sheet asphalt. .	2,063.05	36.09	7,593.90	. . . . .	1.60 2.22 2.30	American P. & Contr. Co. .	Jan. 27, 1920 (224).
	†West street.	E. B. L. Light street.	W. B. L. Riverside avenue. . .	Sheet asphalt. .	906.15	39.75	3,203.88	. . . . .	1.65	Eastern Paving Co.	Oct. 8, 1918 (41).
	†Westwood avenue. . . .	W. B. L. Longwood avenue. .	E. B. L. Hilton street.	Bit. concrete. .	1,301.00	32.00	4,664.00	. . . . .	1.55	P. Flanigan & Sons.	Nov. 17, 1918 (52).
	†Westwood avenue.	E. B. L. Payson street.	W. B. L. Smallwood street. . .	Bit. concrete. .	781.00	39.60	3,850.00	. . . . .	1.24	F. E. Schneider Pav. Co. . .	Feb. 26, 1918.
126	‡Westwood avenue.	W. B. L. Smallwood street. .	E. B. L. Warwick avenue. . . .	Sheet asphalt. .	1,135.00	39.60	4,929.00	. . . . .	1.65 2.20	American P. & Contr. Co. .	Feb. 18, 1919 (151).
135	†Westwood avenue. . . .	E. B. L. Fulton avenue.	E. B. L. Calhoun street.	Sheet asphalt. .	496.85	39.50	2,180.62	. . . . .	1.20 2.04	Balto. A. B. & Tile Co. . . .	Oct. 18, 1921 (289).
	†Westwood avenue. . . .	W. C. L. Thomas avenue. . . .	W. C. L. Whitmore avenue. .	Sheet asphalt. .	270.00	22.00	761.00	. . . . .	1.55	Balto. A. B. & Tile Co. . . .	Nov. 7, 1919.
106	‡Westwood avenue.	W. B. L. Poplar Grove street	W. B. L. Longwood street. . .	Bit. concrete. .	501.00	32.00	1,965.00	. . . . .	1.55	P. Flanigan & Sons.	Feb. 20, 1920.
124	‡Wheeler street.	N. C. L. Edmondson avenue. .	S. B. L. Arunah avenue.	Bit. concrete. .	219.25	39.60	995.00	. . . . .	1.65 2.25	Balto. A. B. & Tile Co. . . .	Jan. 13, 1919 (150).
	‡Wheeler street.	N. B. L. Arunah avenue.	S. B. L. Harlem avenue.	Sheet asphalt. .	189.00	39.60	801.00	. . . . .	1.68	Union Paving Co.	Nov. 11, 1919.
126	‡Whitmore street.	S. B. L. North avenue.	N. B. L. Westwood avenue. . .	Sheet asphalt. .	321.00	32.00	1,074.00	. . . . .	1.65 2.29	American P. & Contr. Co. .	Feb. 18, 1919 (151).
	†William street.	N. B. L. Clement street.	S. B. L. West street.	Sheet asphalt. .	713.20	30.22	2,441.43	. . . . .	1.75	Balto. A. B. & Tile Co. . . .	Jan. 14, 1919.
73	†William street.	N. B. L. Clement street.	N. B. L. Gittings street.	Sheet asphalt. .	111.25	30.07	368.85	. . . . .	2.60 2.30	American P. & Contr. Co. .	Jan. 27, 1920 (281).
73	†William street.	N. B. L. West street.	S. B. L. Warren avenue.	Sheet asphalt. .	947.90	35.70	3,420.49	. . . . .	1.60 2.20 2.30	American P. & Contr. Co. .	Jan. 27, 1920 (216).
116	†Wills street.	N. B. L. Philpot street.	S. B. L. Dock street.	Granite blocks	445.10	33.80	1,668.34	. . . . .	1.10	I. J. Smith & Co. Inc. . . .	Nov. 17, 1920 (165).
	†Wilson street.	E. B. L. Madison avenue. . . .	W. B. L. Eutaw Place.	Sheet asphalt. .	294.53	39.39	1,342.90	. . . . .	1.55	Balto. A. B. & Tile Co. . . .	Dec. 31, 1918.
74	†Wilson street.	E. B. L. Eutaw Place.	E. B. L. Bolton street.	Sheet asphalt. .	711.60	38.60	3,353.10	1.64 3.50	1.64 2.30	American P. & Contr. Co. .	Sept. 24, 1919 (159).
74	†Wilson street.	E. B. L. Park avenue.	W. B. L. John street.	Sheet asphalt. .	314.10	38.15	1,211.80	. . . . .	1.64 2.30	American P. & Contr. Co. .	Sept. 24, 1919 (159).
74	†Wilson street.	E. B. L. Penna. avenue.	W. B. L. Madison avenue. . . .	Sheet asphalt. .	1,453.80	38.55	5,866.70	. . . . .	1.64 2.30	American P. & Contr. Co. .	Sept. 24, 1919 (187).
138	‡Winchester street.	W. B. L. Poplar Grove street	E. B. L. Longwood street. . .	Sheet asphalt. .	509.00	30.00	1,757.00	. . . . .	1.42	P. Flanigan & Sons.	June 25, 1920.
	‡Winchester street.	E. B. L. Poplar Grove street	W. B. L. Dukeland avenue. .	Sheet asphalt. .	434.00	30.00	1,410.00	. . . . .	1.60	Balto. A. B. & Tile Co. . . .	Nov. 7, 1919.
	‡Windsor avenue.	W. B. L. Dukeland avenue. .	E. B. L. Ellamont avenue. . .	Sheet asphalt. .	1,906.00	32.00	7,318.00	. . . . .	1.65	American P. & Contr. Co. .	Nov. 7, 1919.
109	†Windsor avenue.	E. B. L. Garrison avenue. . .	W. B. L. Hilton avenue.	Sheet asphalt. .	690.00	32.00	2,459.00	. . . . .	1.59	F. E. Schneider Pav. Co. . .	Oct. 15, 1917.
122	†Wine alley.	E. B. L. Charles street.	N. B. L. German street.	Sheet asphalt. .	226.60	13.40	346.45	. . . . .	1.53 2.25	Balto. A. B. & Tile Co. . . .	Dec. 15, 1920 (280).
141	‡Wolfe street.	E. C. L. Harford Road.	80 ft. S. of Darley avenue. . .	Sheet asphalt. .	1,455.00	30.00 60.00	5,077.00	. . . . .	1.17 1.95	P. Flanigan & Sons.	Sept. 27, 1921.
100	†Wolfe street.	N. B. L. Fell street.	S. B. L. Aliceanna street. . . .	Granite blocks	1,036.93	34.78	3,952.76	2.45	2.45	Consolidated Engr. Co. . . .	Sept. 1, 1920.
	†Woodbrook avenue. . . .	N. C. L. Fulton avenue.	S. B. L. Ruskin avenue.	Sheet asphalt. .	676.00	24.00	1,870.00	. . . . .	1.52	F. E. Schneider Pav. Co. . .	Nov. 14, 1917.
141	‡Wyman avenue.	E. B. L. Huntingdon avenue.	W. B. L. Oak street.	Sheet asphalt. .	500.00	24.00	1,345.00	. . . . .	1.17 1.95	P. Flanigan & Sons.	Sept. 27, 1921.
					69,708.123.00		3,000,289.19				

1. Sheet asphalt over cobble stone, except Chester street, between Jefferson street and McElderry street, which is to be sheet asphalt on a concrete base.
2. Omit intersection at Frederick street.
3. Omit intersections at Baltimore, Lombard and Fayette streets.
4. Concrete base at Wolfe street.
5. Omit intersection at Greenmount avenue.
6. Omit intersection at Aisquith and Gay streets.
7. Railway area at Caroline street to be vitrified blocks.
8. Intersection of Monument street to be granite blocks on 6-inch concrete base, intersection of Madison street to be vitrified blocks on 6-inch concrete base.
9. Omit intersection of Eager street; sheet asphalt on 6-inch concrete base between curbs and rails; vitrified blocks on 6-inch concrete base between rails.
10. Intersection of Madison street to be vitrified blocks on 6-inch concrete base; intersection of Ashland avenue to be sheet asphalt on 6-inch concrete base; from north side of Madison street to south side of Ashland avenue to be sheet asphalt on cobble.
11. Vitrified blocks between outer rails of railway tracks on 6-inch concrete base.
12. Omit intersection of Biddle and Preston streets.
13. Omit intersection at Greene street.
14. Omit intersection at Lombard street; railway tracks to be vitrified blocks on 6-inch concrete base.
15. Omit intersections at Oliver, Chase, Gay, Biddle, Eager and Preston streets; vitrified blocks between outer rails.
16. Omit intersections at Lexington and Baltimore streets; granite blocks in railway area of intersection of Fayette street.
17. Omit intersections of Davis and Holliday streets.
18. Omit intersection at Lee street.
19. Omit intersection at Water street.
20. Omit intersection at Hillen street.
21. Omit intersection at Hillen, Gay and Ensor streets.
22. Omit intersection at High street.
23. Omit intersection at Forrest street.
24. Omit intersections at Aisquith street, Harford avenue and Broadway; granite blocks between outer rails, Bond street to Broadway.
25. Omit intersection at Charles street.
26. Include intersection at Plowman street.
27. Omit intersection at Lombard street.
28. Omit intersection at Greene street.
29. Intersection of Baltimore street to be paved with granite blocks on 6-inch concrete base, bituminous filler.
30. Omit west half of Central avenue, from N. B. L. Pratt street to N. B. L. Granby street, and east half from Granby street to N. B. L. Fayette street; omit intersections of Baltimore, Gay, Chase and Preston streets; street railway area to be vitrified blocks on 6-inch concrete base; steam railway area to be granite blocks on 6-inch concrete base.
31. Omit intersections of Lamont and Harford avenues, Bond, Aisquith and Caroline streets.
32. Omit intersections at Harford avenue, Bond and Caroline streets.
33. Omit intersections at Aisquith street, Harford and Central avenues.
34. Omit intersections at Biddle and Preston streets.
35. Omit intersections at Hoffman, Biddle and Preston streets.
36. Omit intersection at Bolton street.
37. Intersection of McMechen street to be vitrified blocks.
38. Omit intersections of Orleans and Jefferson streets; intersection of Monument street to be vitrified blocks.
39. Intersection of McMechen street to be vitrified blocks.
40. Omit intersection of Preston and Hoffman streets; vitrified blocks, cement filler, between outer rails.
41. Vitrified block gutters to be used as directed by Chief Engineer.
42. Omit intersection at John street.
43. Omit intersections at Lombard, Baltimore, Fayette, Orleans, Jefferson and McElderry streets.
44. Omit intersection at Central avenue.
45. Omit intersection at Pearl street; granite blocks between Pine and Paca streets to be redressed and reset with bituminous filler on 6-inch concrete base.
46. Omit intersections at Twenty-seventh, Twenty-eighth and Twenty-ninth streets.
47. Omit intersection at Forest Park avenue.
48. Omit intersection at Callaway avenue.
49. Omit intersection at Oakfield avenue.
50. Omit intersection at Twenty-ninth street.
51. Omit intersection at Twenty-seventh street.
52. Omit intersection at Windsor Mill road.
53. Omit intersection at Hampden avenue.
54. Base is top of drainage tubes and not included in price.
55. Omit intersection of Lexington street.
56. Omit intersection of Hillen street.
57. Omit intersections of Greenmount and Harford avenues.
58. Vitrified block gutters and crossings to be used at discretion of Chief Engineer.
59. Vitrified blocks on 6-inch concrete base, cement filler, between outer rails; sheet asphalt on concrete base in dummy between W. B. L. Lawrence street and Fort McHenry Gate.
60. Eastern terminus of this paving on McMechen street will be at W. B. L. Malster avenue; omit intersection of Mt. Royal avenue.
61. Omit intersection of Lafayette avenue; wire-cut lug blocks to be used at discretion of the Chief Engineer.
62. Omit intersections of Druid Hill avenue, McCulloh street and Madison avenue.
63. Omit intersections of McCulloh street, Madison avenue and Eutaw Place.
64. Omit intersection of McCulloh street.
65. Sheet asphalt on concrete base in railway area between N. B. L. Lafayette avenue and S. B. L. North avenue; omit intersections of Lanvale street, Lafayette avenue, Mosher and McMechen streets.
66. Omit intersections of Charles, St. Paul and Calvert streets and Guilford avenue; vitrified blocks on 6-inch concrete base with cement filler between outer rails; wood block stretchers along outer rails adjacent to sheet asphalt paving.
67. Intersections of Harford avenue and Aisquith street to be included in this contract.
68. Omit intersections of Oliver street and Lafayette avenue.
69. Omit intersection of Chase street.
70. Intersection of Franklin street to be old granite blocks on 6-inch concrete base, bituminous filler.
71. Pave west half of Central avenue, from S. B. L. Fawn street to N. B. L. Pratt street, with granite blocks on 6-inch concrete base, cement filler, except in railway area, which is to be bituminous filler; pave west half of Central avenue, from N. B. L. Pratt street to N. B. L. Granby street; pave east half of Central avenue, from S. B. L. Granby street to N. B. L. Fayette street; vitrified blocks on 6-inch concrete base with cement filler, except railway area to be granite blocks on 6-inch concrete base, bituminous filler. The limits of this contract to include that part of Central avenue not included in Contracts Nos. 26 and 27.
72. Vitrified block valley gutters and 6-inch armored concrete curb.
73. Macadam base furnished by City Engineer's Department.
74. Sheet asphalt, concrete base, in railway area, from S. B. L. Preston street to a point 72.50 feet south of southwest corner of Eager Place; vitrified blocks on 6-inch concrete base and cement filler between outer rails elsewhere, also intersections of Fairmount avenue and Monument street.
75. Vitrified blocks on 6-inch concrete base and cement filler between outer rails at intersection of Caroline street.
76. Vitrified blocks on 6-inch concrete base between outer rails.
77. Intersection of John street to be sheet asphalt with vitrified blocks between outer rails.
78. Intersection of Monument street to be vitrified blocks on 6-inch concrete base.
79. Intersections of Fairmount avenue and Fayette street to be vitrified block, on 6-inch concrete base.
80. Intersection of Patterson Park avenue to be sheet asphalt with vitrified blocks on 6-inch concrete base between outer rails.
81. W. B. L. Frederick street to E. B. L. Gay street to be vitrified blocks on 6-inch concrete base; E. B. L. Frederick street to W. B. L. Market Place to be granite blocks on 6-inch concrete base, bituminous filler.
82. Omit west half of Central avenue, from S. B. L. Fawn street to N. B. L. Pratt street.
83. Omit intersection at Oliver street; Federal street railway area to be vitrified blocks.
84. Include paving of Patterson Park avenue, from southwest to northwest building line of Lombard street.
85. Area of Presstman street, from E. C. L. Linden avenue to S. B. L. North avenue, is included.
86. Area of William street, from southeast to northeast building line of Hamburg street, is included in total area.
87. Area of Central avenue, from S. B. L. to E. C. L., is included in total area; also paving of Oliver street, from W. B. L. Harford avenue to E. B. L. Central avenue.
88. Paved under private contract.
89. Omit intersection of Eager street at Charles street.
90. Except intersection of Roland avenue.
91. Omit intersections of Preston street at Charles, St. Paul and Calvert streets, vitrified block gutters and between outer rails.
92. Omit intersections of Biddle street at Charles street and Maryland avenue; include vitrified block gutters.
93. Vitrified block paving between outer rails; include vitrified block gutters.
94. Vitrified block paving between outer rails, except the intersection of Falls road, which is to be granite blocks on 6-inch concrete base, with bituminous filler; include vitrified block gutters.
95. Wood block paving on 6-inch concrete base between outer rails; include vitrified block gutters.
96. Omit intersection of Watson and Exeter streets.
97. Omit intersections of Low street at Exeter and High streets.
98. Omit intersection of Fairmount avenue and Caroline street; Hillside block used between Bond street and Broadway.
99. Omit intersections of Bethel street at Aliceanna street, Canton avenue, Eastern avenue, Bank street and Gough street.
100. Omit intersections of McMechen street at Madison avenue, Eutaw Place and Bolton street.
101. Omit intersection of Madison street at Park avenue and Howard street; vitrified block gutters and armored concrete curb.
102. Hillside block on Mulberry street, between Pearl and Greene streets, on a 6-inch concrete base, cement filler, and at the intersections of Schroeder and Greene streets; vitrified blocks between outer rails, granite block liners; omit intersection at Fremont street.
103. Omit intersection at Chase street.
104. Omit intersection at Howard street.
105. Repaved by City Engineer.
106. Except intersection with Hollins street; B. L.—B. L. in old pavement.
107. Paving on left half extends to line five feet west of E. C. L. Garrison avenue.
108. Paved under private contract (Ordinance No. 125, 1912).
109. Except intersection with Denison street; include in Denison street (Contract B. L.—B. L.).
110. Omit intersection of Thirty-third street at Old York road.
111. Street completed, but contract incomplete.
112. Omit intersection of Preston street at Lamont avenue.
113. Omit intersection at Gay street.
114. Omit intersections at Greenmount avenue, Central avenue and Federal street; railway area to be vitrified blocks.
115. Omit intersection at Wilson street; intersection of McMechen street to be vitrified blocks.
116. Outside area includes vitrified block gutters.

117. Omit intersections at Madison, McElderry and Jefferson streets.
118. Omit intersection at Forrest street.
119. Outside area includes vitrified block gutters.
120. Omit intersections at Preston and Chase streets; Federal street railway area to be vitrified blocks.
121. Omit intersections of Aisquith street, Harford avenue and Central avenue.
122. Includes vitrified block alleys and gutters.
123. Omit intersections at Oliver and Lanvale streets.
124. Omit intersection at Montford avenue.
125. Omit intersections at Harford avenue, Ensor street and Aisquith street.
126. Omit intersections at Madison avenue, Eutaw Place and Linden avenue.
127. Omit intersection of Montford avenue.
128. Omit intersection at Brevard street.
129. Work done by surface heater method; no base laid.
130. Paving between outer rails at intersections of Mosher and Division streets to be vitrified blocks.
131. Vitrified block gutters and crossings to be used at the discretion of the Chief Engineer.
132. Include vitrified block gutters.
133. Omit intersection at Lombard street.
134. Vitrified block to be used between outer rails, with wooden block liners.
135. Omit intersections at Lafayette avenue, McMechen street and Wilson street.
136. Include intersection at Charles street; omit intersection at Hanover street.
137. Omit intersection at Central avenue.
138. Omit intersection at Penn street.
139. Omit intersection of Talbott street and Merrymans lane.
140. Omit intersection of Twenty-fourth street at Calvert street.
141. Omit the intersection of Fayette street and Fremont street, granite block repaving between outer rails on 6-inch concrete base.
142. Intersection of Courtland street at Pleasant street and Mulberry street to be Hillside vitrified block 6-inch concrete base; include vitrified block gutters.
143. Omit the intersections of Collington avenue at Fairmount avenue and Fayette street; include vitrified block gutters.
144. Omit the intersections of Eastern avenue at Lakewood avenue and Linwood avenue; omit the paving of all the headers south of S. C. L. Eastern avenue, between Patterson Park avenue and Linwood avenue; granite blocks between outer rails.
145. Omit the intersections of Fayette street at Montford avenue, Milton avenue and Chester street.
146. All paving, except intersection of Eastern avenue and part of Fawn street, to be paved with old granite blocks.
147. Vitrified block in railway area.
148. Only 2-inch bituminous concrete topping laid; include vitrified block gutters.
149. Include vitrified block gutters.
150. Include vitrified block gutters and alley intersections.
151. Armored concrete curb and vitrified block gutters and alley intersections; omit the intersections of Westwood avenue and Bloomingdale road.
152. Armored concrete curbs.
153. Omit intersection of Presbury street and Rosedale street; armored concrete curbs; vitrified block gutters and alley intersections.
154. Armored concrete curbs, vitrified block gutters and alley intersections.
155. Omit the intersections of Homewood avenue at Preston street and Biddle street; include vitrified block gutters.
156. Omit the intersections of Mulberry street at Gilmor street, Carey street and Carrollton avenue; include vitrified block gutters and armored concrete curbs.
157. Omit the intersections of Calhoun street at Fayette, Lexington, Saratoga, Mulberry and Franklin streets; include vitrified block gutters.
158. Omit the intersections of Barclay street at Federal street, Lanvale, Lafayette avenue; include vitrified block gutters and armored concrete curbs.
159. Include vitrified block gutters and armored concrete curbs.
160. Sheet asphalt on 6-inch concrete base in railway area between Schroeder street and Fremont avenue, vitrified block on 6-inch concrete base, between outer rails; include vitrified block gutters and armored concrete curbs. Omit intersection of Carey street.
161. Omit intersections of Harlem avenue at Fulton avenue and Payson street; include vitrified block gutters and armored concrete curbs.
162. Intersection of St. Paul street to be granite block, 6-inch concrete base, bituminous filler. Laid by City Engineer's Department, Charge Paving Commission.
163. Omit intersections of Caroline street at Madison, Gay and Eager streets; vitrified blocks between outer rails.
164. To be paved with old granite blocks, after being redressed, furnished by the city.
165. Omit intersections of Pleasant street and Davis street; armored concrete curb.
166. At intersection of McMechen street and Druid Hill avenue, the granite blocks are to be redressed and repaved between the outer rails on a 6-inch concrete base, cement filler, armored concrete curbs.
167. Omit the intersection of Preston street and Greenmount avenue.
168. Vitrified blocks between outer rails. Omit intersection of Ashland avenue at Bond, Caroline, Gay, Eden and Central avenue.
169. Omit intersection of Federal, Bond, Caroline and Eden streets, Harford and Lamont avenues, Aisquith and Holbrook streets. Vitrified block paving in railway area. Armored concrete curbs and vitrified gutters and alley intersections.
170. Vitrified blocks between outer rails; vitrified block gutters; armored concrete curbs.
171. Granite blocks between outer rails; vitrified block gutters; armored concrete curbs.
172. Omit intersection of Guilford avenue; armored concrete curb.
173. Omit intersection of Harrison street at Lexington street and Fayette street; armored concrete curb.
174. Omit intersection of Battery avenue and Key Highway; old granite blocks furnished by city; armored concrete curbs.
175. Omit intersection of Brevard street and McMechen street.
176. Omit intersection of Brevard street and Lanvale street.
177. Omit intersection of Jenkins alley at Wilson, McMechen and Mosher streets, Lafayette avenue and Lanvale street.
178. Omit intersection of Rutter alley at Mosher street, Lafayette avenue and Lanvale street.
179. Omit intersection of Mason alley at Wilson and McMechen streets.
180. Omit intersection of Mason alley at Lanvale street.
181. Scoria blocks between outer rails, from Arch street to Liberty street! scoria block liners throughout; 8-inch concrete base from Liberty street to east rail of curve at Eutaw street; from north rail to north curb.
182. Omit intersection at Hill street and Hanover street.
183. Omit intersection of Franklin street at Gilmor street, Carey street, Carrollton avenue and Schroeder street; vitrified block gutters on 5-inch concrete base.
184. Omit the intersections of Fayette street at Central avenue, Aisquith and High streets and the Fallsway.
185. Granite blocks between outer rails; vitrified block gutters; armored concrete curbs.
186. Granite blocks between railway tracks; vitrified block gutters; armored concrete curbs.
187. Omit intersections of Wilson street at McCulloh street and Druid Hill avenue; vitrified block gutters; armored concrete curbs.
188. Omit intersections of Robert street at Druid Hill avenue and McCulloh street; vitrified block gutters; armored concrete curbs.
189. Omit intersections of Laurens street at McCulloh street and Madison avenue; vitrified block gutters; armored concrete curbs.
190. Old granite blocks furnished by city, to be redressed; armored concrete curbs.
191. Omit intersection of Holliday and Bath streets; old granite blocks furnished by city to be redressed; armored concrete curbs.
192. Gutters and curbs not disturbed; 6-inch concrete base laid by City Engineer's Department; binder and topping by Baltimore Asphalt Block and Tile Company.
193. Omit intersection of Fayette street at Fallsway, High street, Aisquith street and Central avenue; vitrified block gutters.
194. Omit intersection of McKim street at Ashland avenue.
195. Omit intersection of Abell avenue at Thirty-first and Thirty-second streets.
196. Omit intersection of Barclay street at Thirty-first and Thirty-second streets.
197. Omit intersection of Longwood street at Brighton and Presstman streets.
198. Omit intersection of Old York road at Thirty-fourth street.
199. Omit intersection of Reservoir street at Park avenue.
200. Omit intersection of Brighton street at Presstman street.
201. Omit intersection of all streets.
202. Omit intersections of Division street at Bloom, Presstman, Robert, Laurens and Wilson streets; vitrified block gutters.
203. Omit the intersections of Hamilton street at Charles and Cathedral streets; vitrified block gutters and armored concrete curb.
204. Omit intersection of Mosher street at Druid Hill avenue; vitrified block gutter and armored concrete curb.
205. Omit intersection of Tyson street and Park avenue; vitrified block gutters and armored concrete curb.
206. All intersections N. of N. C. L. McElderry street are to be omitted.
207. Vitrified block, 6-inch concrete base between outer rails at intersection of Cathedral street and Park avenue; a portion of the railway area will be granite block, bituminous filler on 6-inch concrete base.
208. Entire railway area to be vitrified blocks on 6-inch concrete base, cement filler; omit intersection of Saratoga and Eutaw streets.
209. Omit intersection of Montgomery street at Hanover street.
210. Omit intersection of Henrietta street at Hanover and Charles streets; vitrified block gutters and armored concrete curbs.
211. Omit intersections of Hamburg street at Ridgely street; vitrified block gutters and armored concrete curb.
212. Omit intersection of Cross street at Ridgely street.
213. Omit intersection of Cross street at Hanover street.
214. Omit intersection of Clement street at Hanover street.
215. Omit intersection of Warner street at Ostend, Hamburg and Paca streets.
216. Omit intersection of William street and Hamburg street; vitrified block gutters and armored concrete curb.
217. Omit intersection of Leadenhall street at West, Cross, Hamburg and Henrietta streets.
218. Omit intersection of Race street at Ostend street; vitrified block gutters and armored concrete curb.
219. Omit intersection of Patapsco and Ostend streets.
220. Omit intersection of Battery avenue at West street.
221. Omit intersection of Battery avenue at Warren street.
222. Omit intersection of Cross street at William street.
223. Omit intersection of Paca street at Cross and Hamburg streets; vitrified block gutters and armored concrete curbs.
224. Omit intersection of West street at Race, Hanover and Charles streets; vitrified block gutters and armored concrete curbs.
225. Omit intersection of Brexton alley at Tyson street.
226. Vitrified block in railway area; vitrified block gutters and armored concrete curb.
227. Macadam base by City Engineer's Department; 1½-inch topping and 1½-inch binder by Baltimore Asphalt Block and Tile Company, under repair contract for 1915.
228. Granite block redressed and relaid on 6-inch concrete base; bituminous filler will be used from Thames street to Aliceanna street; north of Aliceanna street cement filler will be used. Omit the intersections of Caroline street at Eastern avenue and Gough street.

229. To be granite block redressed with cement filler, except that between E. C. L. Light street and W. B. L. South street, to be lug blocks with bituminous sand filler. Omit the intersection of German street at Hanover street.
230. Omit the intersection of Fayette street at Howard street and Eutaw street.
231. Granite block between outer rails and liners. Omit the intersection of Lombard street at Central avenue, Eden street, Bond street and Broadway. Vitrified block gutters and armored concrete curb.
232. Granite block, asphalt filler, between outer rails and liners. Omit intersection of Baltimore street. Vitrified block gutters and armored concrete curb.
233. Hillside block, cement filler, 4-inch concrete base.
234. At Fleet street granite block in entire railway area on 6-inch concrete base. Omit intersection of Eastern avenue. Vitrified block gutters and armored concrete curb.
235. Old sheet asphalt to be removed and resurfaced with 1½-inch topping and binder. Railway area 1½-inch topping, 1½-inch binder, 6-inch concrete base. Intersection of Holliday and Fayette streets and adjacent to frogs and switches to be wood block, asphalt filler on 6-inch concrete base. From E. B. L. Holliday to E. B. L. Gay street, sheet asphalt on 6-inch concrete.
236. Old sheet asphalt to be removed and resurfaced with 1½-inch topping and binder. Railway area to be sheet asphalt, 1½-inch topping, 1½-inch binder on 6-inch concrete base.
237. Granite block between outer rails on 6-inch concrete base.
238. Vitrified block cement filler between outer rails. Wood block liners. The intersection of Pratt street and between rails at Lombard, Baltimore and Fayette streets to be redressed granite block, cement filler. Other main street crossings to be granite block, cement filler, between outer rails. Vitrified block gutters and armored concrete curb.
239. Intersection of Haubert street at Marriott and Nicholson streets to be old granite blocks relaid on sand base.
240. Vitrified block, cement filler between outer rails. Wood block liners, bituminous filler along rails.
241. Intersection of Hull street and Marriott street to be old granite blocks relaid on sand base.
242. Omit all street intersections.
243. Sheet asphalt, 5-inch concrete base. Intersections with railway tracks to be on 6-inch concrete base, granite block with cement filler between outer rails, wood block liners. Omit intersection of Arlington avenue at Mulberry, Franklin and Harlem avenue.
244. Sheet asphalt, 5-inch concrete base. Intersections with railway tracks to be on 6-inch concrete base. Granite block with cement filler between outer rails.
245. Omit intersection of Poppleton and Mulberry streets.
246. Omit intersections of Rutland avenue and Madison street.
247. Vitrified block between outer rails, except all main street crossings will be paved with granite block, cement filler between outer rails, wood block liners.
248. Vitrified block between outer rails, wood block liners.
249. Granite block redressed and relaid with cement filler between outer rails, wood block liners.
250. Granite block, cement filler between outer rails, wood block liners.
251. Omit the intersection of Chase street at Patterson Park avenue. Vitrified block, 6-inch concrete base, cement filler between outer rails.
252. Omit the intersection of Eden street at Bank, Pratt, Baltimore, Fayette streets, Fairmount avenue, Lexington, Orleans, Jefferson and McElderry streets.
253. Omit the intersection of Monument street at Castle and Collington avenue. Vitrified block, 6-inch concrete base, cement filler between outer rails.
254. Omit intersection of Bond street at Pratt street, granite block, 6-inch concrete base, cement filler between outer rails.
255. Granite block on 6-inch concrete base, cement filler between outer rails. Topping only between E. B. L. Guilford and E. B. L. Holliday street.
256. Omit intersection of Clay street at Howard street, Park avenue and Liberty street. E. B. L. Eutaw street to W. B. L. Howard street and E. B. L. Park avenue to W. B. L. Sharp street; cement filler; other portions bituminous filler.
257. Omit intersection of Dark lane at St. Paul and Courtland streets.
258. Omit intersection of Greene street at Mulberry street. N. B. L. Lexington to S. B. L. Franklin street to be sheet asphalt on 6-inch concrete base; vitrified block, cement filler, between outer rails at Saratoga street, granite block, cement filler between outer rails.
259. Omit intersection of Read street at Charles street. Redressed granite block; cement filler between outer rails.
260. Omit intersection of Dolphin street at Druid Hill avenue, Park avenue, Bolton street and Linden avenue. Vitrified block, cement filler, between outer rails, on 6-inch concrete base, except Pennsylvania avenue and Division street, and all main street crossings to be granite block redressed with cement filler.
261. Omit intersection of Lanvale street at McCulloh street.
262. Omit intersection of Mosher street at Fremont avenue. Vitrified block, cement filler, 6-inch concrete base between outer rails, except intersection of Pennsylvania avenue to be granite block redressed, cement filler; main street crossings to be granite block, cement filler.
263. Intersection of Centre street, St. Paul street and Courtland street to be granite block, 6-inch concrete base, cement filler, sand cushion.
264. Oliver street to Federal street to be on 6-inch concrete base. Federal street to Lafayette avenue to be on 4-inch concrete base. Omit all intersections.
265. Include armored concrete curb.
266. Omit intersection of Paca street at Saratoga street.
267. Vitrified block, cement filler, 6-inch concrete base between outer rails, except from S. C. L. Hamilton street to S. B. L. Eager street and all main street crossings granite block with cement filler on 6-inch concrete base will be used between outer rails.
268. Granite block between outer rails.
269. Granite block between outer rails and wood block liners.
270. Omit the intersection of Biddle street at Linden avenue, Park avenue, Druid Hill avenue, Eutaw street and Richmond street.
271. Between S. B. L. Lexington street and N. C. L. Lafayette avenue; granite block, cement filler, between outer rails, with granite block liners. Between N. B. L. Lafayette avenue and S. W. B. L. Pennsylvania avenue; vitrified block, cement filler, between outer rails, with wood block liners.
272. Vitrified block, cement filler, 6-inch concrete base between outer rails; granite block, cement filler between outer rails, at all main street crossings, with granite block liners throughout.
273. N. B. L. Essex street to N. B. L. Eastern avenue; granite block, cement filler between outer rails; and from N. B. L. Eastern avenue to Bank street, vitrified block, cement filler between outer rails; all on a 6-inch concrete base.
274. Omit intersection of Pratt street at Hanover street.
275. W. B. L. Front street to E. B. L. Bond street, to be sheet asphalt, 1½-inch topping, 1½-inch binder, with granite block redressed and relaid between outer rails, cement filler, 6-inch concrete base, granite block liners. E. B. L. Bond street to W. B. L. Broadway to be granite block redressed, cement filler, 6-inch concrete base; bituminous filler at street crossings. Omit intersection at Baltimore street at Central avenue.
276. Granite block, redressed and relaid between outer rails, on 6-inch concrete.
277. Granite block between outer rails, cement filler, granite block in dummy at cross streets, asphalt filler; vitrified block gutters.
278. Intersection of East and Low streets to be vitrified block on 6-inch concrete base. Omit intersection of East and Lexington streets. Vitrified block gutters.
279. Omit intersection of Gold street at Carey street, Pennsylvania avenue and Division street. Vitrified block gutters.
280. Include vitrified block gutters.
281. Include vitrified block gutters and armored concrete curb.
282. Ordinance No. 496—two-year guaranty.
283. Base, brick gutters and curb laid by City Engineer's Department.
284. Base, curb and railway area laid by City Engineer's Department.
285. Curb, vitrified block gutter, base and railway area laid by City Engineer's Department.
286. Omit intersection of Myrtle avenue at Saratoga, Mulberry and Franklin streets.
287. Concrete base and brick work laid by City Engineer's Department; sheet asphalt by Baltimore Asphalt Block and Tile Company.
288. Omit intersection of State street and Mulberry street.
289. Granite block liners with cement filler along rails adjacent to sheet asphalt paving; area between outer rails at all main crossings to be granite block; vitrified block gutters.
290. Omit intersection of Myrtle avenue at Dolphin and Mosher street; between N. B. L. Dolphin street and N. B. L. Lanvale street, to be on 6-inch concrete base.
291. Intersections at Presstman and Cumberland streets on 6-inch concrete base, with granite block and cement filler between outer rails.
292. Omit intersection of Presbury street at Appleton, Monroe and Fulton avenue.
293. Omit intersection of Stricker street at Baltimore, Mulberry and Franklin streets. Int. of Pratt street to be old granite block, redressed and relaid, with cement filler. Include wood block liners and vitrified block gutters.
294. Omit intersection of Stricker street at Laurens street. At intersection of Lanvale and Presstman streets granite block between outer rails, with cement filler. Include wood block liners and vitrified block gutters.
295. Omit intersection of Mosher street at Carey. Vitrified block between outer rails from Carey street to Carrollton avenue, with cement filler. At intersection of Gilmor street and Carrollton avenue, granite blocks, with cement filler between outer rails. Include vitrified block gutters.
296. Omit intersection of Baltimore street at Carey street. Granite block between rails at all main street crossings, with cement filler; include granite block liners and vitrified block gutters.
297. Include granite block liners and vitrified block gutters; granite block redressed and relaid, with cement filler between outer rails and entire railway area at all main street crossings. Entire intersection of Calvert and Saratoga street to be granite block.
298. Granite block redressed and relaid between outer rails, and in entire railway area at all main street crossings; include granite block liners and vitrified block gutters.
299. Omit intersection of Pratt street at Ellwood avenue; Pratt street 30 feet wide between Linwood and Ellwood.
300. Omit intersection of Howard street. Include wood block liners and vitrified block gutters.
301. Omit intersections of Etting street at Dolphin street and at Lafayette avenue. Include vitrified block gutters.
302. Include granite block liners and vitrified block gutters.
303. Omit intersections of Schroeder street at Mulberry street, Franklin street, Bennett Place, and at Edmondson avenue. Include wood block liners and vitrified block gutters.
304. Omit intersection of Hollins street at Gilmor, Stricker and Carey streets. Include vitrified block gutters.

*Streets paved by Division of Street Repairs.

**Price given is for asphalt topping only; binder put in by tons and base by cubic yards.

†Streets paved by Paving Commission.

‡Streets paved by Commissioners for Opening Streets.

NOTE.—Gutters included in total area.

paint. All other work was given one coat of Oxide and one black. This material is known as Ironhide Paint. A number of new lateral and diagonal rods were replaced. Also spaces between members were sealed up with Elastite to protect same from the gases of locomotives. This work was done on the span over the railroad. The roadway top floor was repaired with new lumber where same had been worn. Repairs were made to the handrailing.

Charged to: Maintenance of Bridges & Culverts..... $2,438.71

CHARLES STREET BRIDGE.

Minor repairs were made to this bridge, including removing of granite lamp pedestals.

Charged to: Maintenance of Bridges & Culverts..... $37.05

CHASE STREET BRIDGE.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $37.80

COLUMBIA AVENUE BRIDGE.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $17.40

CATON AVENUE CULVERT.

Minor repairs were made to this culvert.

Charged to: Maintenance of Bridges & Culverts..... $21.00

CEDAR AVENUE CULVERT AT 37TH STREET.

Repairs were made to this culvert, including repairs to top of culvert and building water chutes.

Charged to: Maintenance of Bridges & Culverts..... $ 89.65
Charged to: Repairs of Roads & Streets..... 101.56

CULVER STREET BRIDGE.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $1.49

CLIPPER MILL FOOT BRIDGE.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $22.77

CALVERTON ROAD CULVERT.

Minor repairs were made to this bridge, including the building of guard fence.

Charged to: Maintenance of Bridges & Culverts..... $ 1.38
Charged to: Repairs of Roads & Streets..... 78.92

DORSEY'S LANE CULVERT.

Minor repairs were made to this culvert, including the building of guard fence.

Charged to: Maintenance of Bridges & Culverts..... $ 2.72
Charged to: Repairs of Roads & Streets 50.53

EDMONDSON AVENUE BRIDGE, OVER GWYNN'S FALLS.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $41.01

EDMONDSON AVENUE BRIDGE OVER P. R. R.

Repairing and reinforcing wooden floor system of south driveway, also other minor repairs.

Charged to: Maintenance of Bridges & Culverts..... $671.48

FRANKLIN ROAD BRIDGE.

Minor repairs were made to this bridge, including the building of guard fence.

Charged to: Maintenance of Bridges & Culverts..... $ 4.00
Charged to: Repairs of Roads & Streets..... 16.21

FRANKLIN ROAD CULVERT, AT MORRIS AVENUE.

Minor repairs were made to this culvert.

Charged to: Maintenance of Bridges & Culverts..... $ .79

FRANKLIN ROAD CULVERT, EAST OF W. M. R. R.

Minor repairs were made to this culvert.

Charged to: Maintenance of Bridges & Culverts..... $ .82

FALLS ROAD CULVERT.

Minor repairs were made to this culvert.

Charged to: Maintenance of Bridges & Culverts..... $1.06

GARRISON LANE CULVERT, SOUTH OF P. R. R.

Minor repairs were made to this culvert, including the building of guard fence.

Charged to: Repairs of Roads & Streets..... $77.77

GUILFORD AVENUE BRIDGE.

The portion of the roadway east of the United Railways track was entirely reconstructed with a 3¾″ Georgia Pine underfloor spangled together and treated with Carbolineum Wood Preservative, on which a 3½″ long leaf creosoted wood block was laid and joints poured with Barrett's Block Filler. The portion west of the railroad tracks was repaired. The handrailing was cleaned and painted with one coat of Iron-Oxide and one coat of Carbon Base Black Ironhide paint.

Charged to: Maintenance of Bridges & Culverts..... $6,288.48

HARMON'S BRIDGE.

The entire top roadway floor was renewed and the entire railings through length of bridge rebuilt and painted with

one coat of White Lead and Oil, also one coat of Banknote Green.

Charged to: Maintenance of Bridges & Culverts..... $1,386.25

HOLLINS STREET CULVERT.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $1.06

HILLEN ROAD CULVERT.

A guard fence wall was built along the sides of this culvert.

Charged to: Repairs of Roads & Streets..... $31.18

LOMBARD STREET BRIDGE.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $6.06

LEE STREET BRIDGE.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $18.82

LAFAYETTE AVENUE CULVERT.

Minor repairs were made to this culvert.

Charged to: Maintenance of Bridges & Culverts..... $8.51

LEXINGTON STREET CULVERT.

Minor repairs were made to this culvert.

Charged to: Maintenance of Bridges & Culverts..... $ .69

LIGHT STREET FOOT BRIDGE.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $10.00

MARYLAND AVENUE BRIDGE.

The handrailing on this bridge was cleaned and painted with one coat of Iron-Oxide and one coat of Carbon Base Black Ironhide paint.

Charged to: Maintenance of Bridges & Culverts..... $77.22

MISCELLANEOUS BRIDGES.

Some expense was incurred which could not be charged to any particular bridge, so same was charged to Miscellaneous Bridges.

Charged to: Maintenance of Bridges & Culverts..... $1,022.70

MT. VERNON AVENUE BRIDGE.

A portion of the top floor of the roadway was relaid on this bridge. Also, considerable grading was done under same and repairs made to the Terra Cotta drain.

Charged to: Maintenance of Bridges & Culverts..... $726.86

NANTICOKE STREET LOT.

This lot was used for the receipt, storage and distribution of paving materials, in addition to stone-crushing operations. A watchman was also employed and such forces as were needed from time to time.

Charged to: Repairs of Roads & Streets..... $660.17

NORTH MONROE STREET BRIDGE.

The entire west roadway of this bridge was reconstructed with 3¾ Georgia Pine lumber spangled together and treated with Carbolineum Wood Preservative on which 3½″ creosoted long leaf Georgia pine wood blocks were laid, and same poured with Barrett's Block Filler. The entire east roadway was also reconstructed with Georgia pine and

treated with Barrett's Grade 1 Liquid Creosote Oil, both top and bottom floor. The lateral rods over the railroad tracks were renewed and all the ironwork not encased with concrete was painted with two coats of Iron-Oxide and one coat of Carbon Base Ironhide Paint. The handrailing was repaired and other minor repairs were made, including concrete headers capped with granite block, on both ends of the bridge.

Charged to: Maintenance of Bridges & Culverts..... $5,245.05

OSTEND STREET BRIDGE.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $1.98

POPLAR GROVE STREET BRIDGE.

The handrailing of this bridge was cleaned and painted with one coat of Semi-Paste Red Lead and one coat of Banknote Green Paint.

Charged to: Maintenance of Bridges & Culverts..... $70.91

PRESTON STREET BRIDGE.

Maintenance repairs were made to this bridge regarding the care of blocking, etc. This work was made necessary by the filling in of this bridge.

Charged to: Maintenance of Bridges & Culverts..... $427.92

RAYNER AVENUE CALVERT.

Minor repairs were made to this culvert.

Charged to: Maintenance of Bridges & Culverts..... $ .30

ST. PAUL STREET BRIDGE.

Minor repairs were made to this bridge, including the repairs to protective wooden sheathing under the 280 ft. Bowstring Truss Span.

Charged to: Maintenance of Bridges & Culverts..... $89.85

STONY RUN BRIDGE.

Minor repairs were made to this bridge.

Charged to: Maintenance of Bridges & Culverts..... $6.69

SLINGLUFF AVE. BRIDGE (SOUTH OF NORTH AVE.).

The entire floor system of this bridge was rebuilt, including top and bottom floor.

Charged to: Maintenance of Bridges & Culverts..... $996.43

SIXTH STREET CULVERT.

An agreement was entered into by the City of Baltimore, Maryland, and the Union Stock Yards Company to construct a 8′ by 14′ concrete box culvert over the Maiden Choice Run at this point, for which the aforesaid parties were to bear the cost for same.

Charged to: Maintenance of Bridges & Culverts..... $1,630.54

THIRTEENTH STREET CULVERT, NEAR REESE ST.

Minor repairs were made to this culvert, including the rebuilding of a guard fence.

Charged to: Maintenance of Bridges & Culverts..... $ 5.00
Charged to: Repairs of Roads & Streets..... 17.24

UNION AVENUE CULVERT.

The footways on this bridge were rebuilt and the handrailing was painted in places where corrosion existed. Also, the angle iron railings at ends of the bridge were given one coat of Iron-Oxide and one coat of Black Carbon Base Ironhide Paint.

Charged to: Maintenance of Bridges & Culverts..... $336.52

WILKENS AVE. BRIDGE, AT GWYNN'S FALLS.

Minor repairs were made to this bridge, including building guard fences on the ends of the bridge, and painting same with one coat of White Lead and Oil, also one coat of Banknote Green paint.

Charged to: Maintenance of Bridges & Culverts..... $289.09

WILKENS AVE. CULVERT, AT MAIDEN CHOICE RUN.

Minor repairs were made to this culvert.

Charged to: Maintenance of Bridges & Culverts..... $1.92

WILKENS AVE. CULVERT, AT GWYNN'S RUN.

Minor repairs were made to this culvert.

Charged to: Maintenance of Bridges & Culverts..... $1.95

MAINTENANCE OF BRIDGES AND CULVERTS.

Appropriation 5.411.	$25,000.00
By order of Board of Estimates, March 20th, 1916, ½ cost Sixth Street Culvert to be taken out of the Emergency Fund.	1,500.00
	$26,500.00

EXPENDITURES.

Roadway filler, paving joint and materials....	$659.07	
Installing lamps, Bush Street Culvert.....	114.36	
½ cost Sixth Street Culvert.....	1,517.38	
Tools, hardware, etc.....	657.30	
Hauling.	233.23	
Cement.	187.90	
Paints, oils, brushes and glass.....	437.08	
Lumber.	7,157.04	
Expense No. 7 Ford automobile.....	590.61	
Blacksmith welding and repairing.....	566.46	
Hydrated lime.	25.26	
Structural wire and steel.....	874.59	
Stone masonry, Bush Street Culvert.....	80.25	
Rubber boots.	23.10	
Miscellaneous incidentals.	266.41	
Blue printing and developing.....	90.80	
Sand and gravel.....	401.42	
Stationery and office supplies.....	72.29	
Installation of electrical work, Bentalou Street Bridge.	620.00	
Labor.	11,498.25	
		26,072.80
Surplus of credit.....		$427.20

Concrete Encasement of Bridges.

GUILFORD AVENUE BRIDGE. NORTH MONROE ST. BRIDGE.

On account of the inability to protect these bridges by painting from the corrosive action of gases emanating from engine stacks on the tracks of the Pennsylvania Railroad below, it was decided to provide permanent protection to principal members of the floor system by covering them with a protective coating of reinforced concrete.

Plans were made providing for a covering of 1½ inches of reinforced concrete to be applied to the longitudinal and transverse floor beams and other members.

The iron work was first thoroughly cleaned; then, after being wrapped with reinforcing material, forms were built around members wherever practical and concrete poured into them. On the larger members the concrete was plastered on by skilled workmen.

The old wooden footways on the Guilford Avenue Bridge were replaced by a 3-inch reinforced concrete slab, and same were reduced in width. The iron eye-beam joists were encased with concrete, as was the base of the handrail posts.

The work on the North Monroe Street Bridge was applied to nine transverse floor beams over the tracks of the Pennsylvania and Western Maryland Railroad. All rods which were decreased in section were removed.

Other expenditures of a miscellaneous character were charged against this fund, which fully expended the appropriation.

Following is a statement of expenditures under this fund:

CONCRETE ENCASEMENT OF BRIDGES.

Appropriation		$2,500.00

Expenditures.

Labor, as per pay roll	$1,924.14	
Lumber	63.74	
Cement and lime	156.33	
Sand and gravel	47.08	
Concrete mixer	162.50	
Hauling	11.15	
Blue prints	2.28	
Welding and blacksmithing	42.74	
Structural steel and wire	42.60	
Miscellaneous incidentals	1.49	
Total		$2,454.05
Surplus of credit		$45.95

Preston Street Bridge Fill.

Since the diversion of Jones' Falls, it was not necessary to maintain the Preston Street Bridge over this stream. As it was possible for us to secure sufficient dirt of a desirable character to make this fill under the entire area of bridge, and as we received Ten ($.10) Cents for each load, the filling cost the city but very little.

Openings were cut at convenient places in the roadway and footways, and the dirt was dumped out of wagons through these openings which did not interfere with traffic to any extent.

A stream of water was kept playing on top of this fill which compacted the earth and always left room at the top so as not to cause any delay in dumping.

The trusses were left in place, as the expense of removing same and the delay caused to traffic would cost more than the salvage obtained from this material.

PRESTON STREET BRIDGE FILL.

Credits		$528.80
Debit balance from 1915	$ 78.47	

Expenditures.

Labor	438.40	
Refund W. A. Potts	2.20	
Refund S. C. Tweedale	.80	
Refund W. S. Poole	2.80	
Refund Guilford Contr. Co.	.50	
		523.17
Surplus of credit		$5.63

MUNICIPAL GARAGE, 1916.

Debit balance from 1915		$6,175.07

Expenditures.

Labor	$8,554.25	
Tires and tubes	14,503.10	
Accessories and supplies	5,348.02	
Repairs and repair parts	12,206.42	
Gasoline	7,520.72	
Oil, grease, waste, etc.	1,321.78	
Registrations	280.35	
Fuel and lighting	162.84	
Lettering cars	97.05	
Lumber	64.50	
Tools, machinery, etc.	367.21	
Uniforms and caps	637.50	
Miscellaneous incidentals	945.64	
		52,009.38
Total		$58,184.45
Credits		39,717.44
		$18,467.01
Debit balance forwarded to 1917		$18,467.01

Private Paving and Inspection.

To this account was charged all expense of repaving over cuts made in improved pavements under guarantee under authority of permits issued by this department and all other work where deposits were made by applicants for permits; also, where work was done for private parties and the cost to be billed against them.

The accounts show a surplus of credit largely due to the new paving rate charge of Six Dollars per square yard. The charges made against the accounts during the year were $16,819.45 and the credit invoices amount to $13,388.00, as follows:

Total charges for the year in this Division were.....	$16,819.45
Total amount of bills rendered.....	13,388.00
Total debit carried forward.....	$3,431.45

Charges for cement tests included in the above charge to be billed out in 1917.

Bureau of Information and Complaints.

The Bureau of Information and Complaints during the year just passed has received approximately forty-five hundred complaints, same having been received through the Police Department, the General Public and the different City Departments.

The nature of these complaints were as follows:

Dangerous holes in the streets and alleys; broken and dangerous curbs; broken manhole covers and sewer inlet covers; water in cellars, caused by defective gutters, broken water and sewer pipes; bricks and debris piled in streets and alleys; unsanitary condition of alleys, yards, etc., choked sanitary sewers and bursted water mains.

When complaints are received by this Department they are immediately recorded on the regular complaint blanks and

are then turned over to the Department's Inspector for investigation and report at the earliest moment possible, at which time the Bureau refers same to the Department it deems responsible for the trouble, with request that complaint be given prompt attention.

In case of emergency; that is, a dangerous complaint which needs immediate attention, it is telephoned at once to the construction division of the Department responsible, with instructions to make same safe at once, until such time when repairs can be made in full.

Since the public has become more accustomed to the Bureau as a source of information, the inquiries along this line have greatly increased. In addition to the many requests made for information in person at the Bureau, there are also a great many requests for same by both telephone and mail.

These requests, many times, appertain to information outside of Municipal affairs. The Bureau at all times, endeavors to answer these questions, or put the parties inquiring on the right track where said information will be forthcoming.

EXPENSE—BUREAU OF INFORMATION AND COMPLAINTS (5.11E).

Appropriation		$600.00
EXPENDITURES.		
Repairs to motorcycle No. 9	$115.84	
Repairs to Automobile No. 6	124.38	
Miscellaneous incidentals	6.95	
		247.17
Surplus to credit		$352.83

Expense City Forester.

During the year this department waterproofed along the parking in the 1600 and 1700 block North Bond Street, which consisted of putting in a clay puddle wall between the curb and footway.

Following is a statement of expenditures under this fund:

Expenditures.

Labor, as per pay roll	$85.00
Hauling	24.95
Total	$109.95

Kiosks.

The first kiosks built by the city were given out under contract. After they were built and the design approved and found to be satisfactory, it was thought that they could be constructed cheaper with our own forces.

Seven of these kiosks were built, and improvements made on the original design. They were put on the street, and the maintenance of same was kept up by this Department.

The amount of money expended on account of these kiosks was $1,170.71.

Emergency.

Expenditures.

Labor, as per pay roll	$487.28
Hardware	59.98
Paints	57.94
Lumber	321.12
Blue prints, surveys, etc	114.10
Hauling	2.45
Equipping kiosks	99.51
Tops for kiosks	96.00
Miscellaneous incidentals	46.43
Grade establishments and re-establishments	224.00
	$1,508.81

INCIDENTALS.

EXPENDITURES.

Labor, as per pay roll	$61.57
Blue prints, stationery, etc.	20.54
	$82.11

Respectfully submitted,

JAMES W. OGIER,

Division Engineer.

Report of Thomas D. Pitts, Assistant Engineer

1916

HIGHWAYS ENGINEER'S DEPARTMENT,

SUB-DIVISION OF SEWERS.

BALTIMORE, January 15, 1917.

MR. R. M. COOKSEY, *Highways Engineer.*

DEAR SIR: In compliance with your request, I have the honor to submit herewith a brief report of the operations of the Sewer Division for the year 1916:

On January 1st, 1916, this Division took charge of the maintenance and operation of the sewer system of the city, including the sanitary sewers and storm water drains; the Sewage Pumping Station and the Sewage Disposal Plant built by the Sewage Commission and the sewers and drains, belonging to the city, which were built by other agencies. The Division is organized in four sections as follows:

Division Office,
Day Labor Force,
Sewage Pumping Station,
Sewage Disposal Plant.

All of the records of the Sewerage Commission were turned over to the Division upon its organization, and a large part of the time of the Engineer in Charge of Sewers and of the office force has been devoted to furnishing, from these records, information as to the locations of connections to the sanitary sewers for existing buildings and as to the provi-

sion of proper sanitary drainage for new buildings and developments; and in connection with claims and law suits against the city. The office has also prepared plans for the construction of sanitary sewers to be built by private parties who have developed new properties, and for the storm water drains and inlets required in connection with the work of the Paving and Annex Commissions. Under the rules now in force, all sanitary lateral sewers required in connection with the development of new properties must be built by, and at the expense of, the owners, in accordance with plans prepared by this Division and under our supervision; and under agreements providing that such sewers shall become the property of the city when they are connected to the sanitary system, without further compensation to the owners. Plans were prepared during the year for 53 such sewers, having a total length of about 7 miles. The practice of having private sewers built according to plans prepared by the city was inaugurated by the Sewerage Commission in 1910, and the total length of sewers so built to date is approximately 40 miles. It is expected that future extensions of lateral sewers into undeveloped territory will be made in this way, the main trunk lines only being built by the city.

Under the law, the cleaning of storm water drains, inlets and catch basins is done by the Commissioner of Street Cleaning, but all flushing and cleaning of sanitary sewers is handled by the Day Labor force of this Division, which also makes repairs to sanitary sewers, storm water drains, inlets and manholes when necessary. The amount of repair work during the year was, however, very small, consisting chiefly of replacing broken inlet heads and manhole covers. A considerable nubmer of stoppages in house connections and main sewers were relieved by the Day Labor force during the year, the majority of them being due to the introduction of improper material into the sewers, either through the house

plumbing or through manholes. In all such cases, the cost of relieving the stoppage is charged to the owner of the property where the trouble originated. In addition to the maintenance of the sanitary sewer and storm water drainage systems, the Day Labor force did a large amount of work in constructing sanitary sewers and storm water drains at the expense of the Sewerage Commission funds, in extending house connections at the expense of private parties, inlets and inlet connections for the Annex Commission, Paving Commission, etc., the total expenditure for labor on this account being about $85,000, and for material about $32,000. At the end of the year practically all of this cost, plus 10% for inspection and use of tools, had been billed against the parties for whom the work was done and credited to the Private Paving and Inspection Account.

During the year the average daily volume of sewage received at the Sewage Disposal Plant was 39,270,000 gallons, being an increase of approximately 25% over the volume of flow in 1915. The final effluent from the Disposal Plant was, at all times, stable and odorless, and the operation of the entire plant was satisfactory from a sanitary standpoint. The odors arising from the operation of the plant were noticeably less than in previous years, and as the volume of sewage increases these odors should be still further diminished. A contract was let to the Heineken Reduction Company early in the year, under which that company agreed to purchase the sludge produced by the plant, after drying on sand beds. Payments on this contract are based on the weight of material shipped away from the Disposal Plant, after further drying by the Contractor, and the weight of such material shipped, from the beginning of the Contractor's operations in May to the end of the year was 2,527.56 tons. Under the contract, the city reserved the right to sell liquid sludge, as it comes from the digesting tanks, to farmers in the vicinity, and the amount so taken

was 4,391½ two horse wagon loads. The total volume of sludge taken during the year by the Contractor and by farmers was nearly equal to the entire quantity produced.

The total volume of sewage pumped at the Sewage Pumping Station during the year was 7,651,460,000 gallons, an average of 20,912,000 gallons per day, which is an increase of nearly 16% over the average volume pumped in 1915. The average head against which the pumps operated during 1916 was 71.49 ft., and the average cost of raising 1,000,000 gallons one foot was 5.58 cents, compared to an average cost of 6.293 cents in 1915. The cost of disposing of screenings was 72.8 cents per million gallons pumped as compared with a cost in 1915 of 64.3 cents per million gallons pumped, the increase being due to an increase in the quantity of screenings per million gallons and to the increased cost of coal in 1916 compared to the cost of coal in 1915.

The cost of operating the Station was considerably increased by the sudden increase in the price of coal which occurred in August, 1916, but we were fortunate in having on hand a considerable quantity of semi-bituminous coal such as had been used exclusively up to that time in operating the Station. By mixing with this coal anthracite coal of the smaller sizes, which we were able to purchase at a reasonable price, we have been able to conserve our supply of semi-bituminous coal to such an extent that we have been obliged to purchase only a small quantity of semi-bituminous coal at the current high prices. The mixing of the two kinds of coal has, however, made it necessary for us to burn a somewhat greater total quantity and has increased the work of our fire room force, but we have been able to get along so far without increasing the number of men employed.

At the end of the year the total length of the sanitary sewer system, including house connections, was 610 miles. The number of manholes on sanitary sewers was about 10,-

000 and the number of connections provided for, including Y-branches not yet extended, was about 116,000; the length of the storm water drainage system, including inlet connections was about 200 miles; the number of manholes and drop wells was about 4,000 and the number of inlets and catch basins was about 6,000. The total length of sanitary sewers built by private parties to date is approximately 40 miles, the number of connections on such sewers, including Y-branches not yet extended, is nearly 11,000 and the number of manholes about 700.

SUMMARY OF EXPENSES.

Maintenance and Operation Sanitary and Storm Water Systems—	
Salaries	$15,380.68
Labor	39,863.33
Materials	3,978.61
Supplies	1,879.48
	$61,102.10
Appropriation	73,200.00
Balance	$12,097.90
Sewage Pumping Station—	
Salaries and labor	$24,286.02
Coal, oil, waste and supplies	17,070.97
	$41,356.99
Appropriation	43,376.50
Balance	$2,019.51
Sewage Disposal Plant—	
Salaries and labor	$31,311.04
Materials and supplies	3,979.54
	$35,290.58
Appropriation	36,674.00
Balance	$1,383.42

LENGTH OF SANITARY SEWERS.

Main and Lateral Sewers—8-inch diameter circular to 11 ft. by 12 ft. 3 in. horseshoe	1,837,202 feet
House Connections	1,383,546 feet
Private Sewers—Constructed according to City's plans:	
Main and lateral	167,692 feet
House connections	54,139 feet
Old Private Drains—Incorporated in Sanitary System	18,068 feet
Total Sanitary System	3,460,647 feet
Manholes on all Sanitary Sewers	10,703
Lampholes on all Sanitary Sewers	825
Spurs on all Sanitary Sewers	128,090

LENGTH OF STORM WATER DRAINS.

Main Drains—Built by the Sewerage Commission	577,461 feet
Inlet Connections—Built by the Sewerage Commission	157,760 feet
Old Storm Water Drains—Built by the Sewerage Commission	313,000 feet
Total Storm Water System	1,048,221 feet
Inlets—Built by the Sewerage Commission	5,934
Manholes and Dropwells—Built by the Sewerage Commission	3,353
Lampholes—Built by the Sewerage Commission	12

The number of Manholes and Inlets, and length of inlet connections, on the old storm water drains is not in the records.

The revenue received at the Sewage Disposal Plant from rentals of city property and sales of sludge was $3,998.22, making the total net cost of maintaining and operating the sewer system $133,751.45.

In conclusion, I wish to express my appreciation of the faithful work of all employes of this Division, without whose hearty co-operation it would have been impossible to carry on the work successfully.

Respectfully submitted,

THOMAS D. PITTS,

Engineer in Charge of Sewers.

Report of Edward S. Bohager

1916

HIGHWAYS ENGINEER'S DEPARTMENT,

SUB-DIVISION OF SEWERS HOUSE CONNECTIONS.

MR. R. M. COOKSEY, *Highways Engineer.*

DEAR SIR—I beg to submit the following report of the work done by the Sewer Loan Division during the year 1916, including a statement of expenditures and credits, and the number of houses under contract. The number of loans contracted as shown in this year's report as compared with the year previous shows a decrease of 628.

CONTRACTS.

Houses under contract uncompleted in 1915 brought forward..		63
Houses under contract in 1916.....		994
		1,057
Contracts for houses completed.....	998	
Contracts for houses cancelled.....	10	
Contracts for houses uncompleted.....	49	
		1,057

EXPENDITURES AND CREDITS.

Amount credited.....	$156,088.02
Amount expended.....	85,244.40
	$70,843.62
Surplus of credit.....	$70,843.62

Respectfully submitted,

EDWARD S. BOHAGER.

Report of Frank H. Beall, Chief Inspector

1916

Highways Engineer's Department.

Sub-Division of Inspection.

Baltimore, January 11, 1917.

Mr. R. M. Cooksey, *Highways Engineer.*

Dear Sir—I hereby submit a synopsis, showing the work performed during the year 1916 in the city's streets by the public service corporations, contractors and individuals, on permits issued by this Department, over which this Sub-Division had supervision and control.

The Chesapeake & Potomac Telephone Company constructed in public streets 56,636 feet of conduit.

The city is now collecting from the above company, in duct rental, the sum of $54,617.79. The data for this work is handled by this Division, and the proper report is made to the Comptroller at the end of each fiscal year, which closes on October 31.

The United Railways and Electric Company did a large amount of repairs and renewals to their tracks and structures during the year. Considerable inspection was necessary over their operations, both day and night, during which time over 7,000 different locations were inspected, exclusive of the 400 preliminary inspections made prior to the issuance of the permits.

The Consolidated Gas Electric Light and Power Company constructed, in new and renewed service pipes, 470,600 feet; in new and renewed gas mains, 68,700 feet, and in addition did a large amount of work in disconnecting mains and service pipes, in changing the location of pipes and in making new connections. We had a very rigid inspection over this work and covered nearly 20,000 different openings made in the public streets, as well as 800 preliminary inspections made before the issuance of the permits in improved streets. A very considerable amount of the repaving was restored by the Sub-Division of Street Repairs upon our paving orders.

The various pole and electric operating companies performed work in the public streets on approximately 2,000 permits, which covered more than 9,000 different locations. Most of the paving disturbed by the pole operating companies is restored by the city and some of it is restored by the companies, but in each case a paving ticket is forwarded to the Footway Division for their attention.

During the year we supervised the blasting of sewer trenches, tunnels, foundations, embankments, etc., on 49 permits. This Sub-Division issues all permits and certificates of fitness necessary when explosives are handled in any manner whatsoever.

This Sub-Division issued 465 permits for the removal of steam rollers, traction engines, etc., as provided for in Ordinance No. 132, approved July 3rd, 1912.

The Baltimore and Ohio Railroad Company did the usual amount of repair work to their tracks and structures in the public streets, as well as the construction of new sidings under our supervision.

The Western Maryland Railway Company did a considerable amount of repairing and renewal to their tracks and structures in the public streets under our supervision.

The Philadelphia, Baltimore and Washington Railroad Company did the usual amount of repair work during the

year, as well as the construction of sidings under our supervision.

The Pennsylvania Railroad Company did a very considerable amount of repair work to their tracks, renewal of switches, change of rails and relocation of sidings during the year, as well as the construction of sidings under our supervision.

The Terminal Freezing and Heating Company did the usual amount of repairing to their steam mains and services during the year and also constructed new services under our supervision.

During the year we have covered a very considerable number of permits issued for the purpose of storing both building and footway material in our improved streets, in order to prevent injury to same.

In addition to the foregoing, we inspected a large amount of work performed in the public streets on permits of a miscellaneous character. Over 800 complaints, which arose from blasting, pole work and other causes, were investigated and reported on. During the year a great number of paving tickets were forwarded to each respective division for their attention, and practically all of the paving disturbed on permits issued to corporations, contractors and individuals was replaced by our Street Repair Division at the expense of the above-mentioned corporations, etc.

About $200 in delinquent poles was reported to the Collector of Water Rents and Licenses for his information and attention, against various electrical operating companies, within the city.

During the year this Division has earned over and above the salaries of the Chief Inspector and all inspections, approximately $1,200.

Respectfully submitted,

F. H. Beall,

Chief Inspector.

Report of C. S. McCollum, Engineer of Footways 1916

HIGHWAYS ENGINEER'S DEPARTMENT,

SUB-DIVISION FOOTWAYS.

BALTIMORE, March 9, 1917.

MR. R. M. COOKSEY, *Highways Engineer.*

DEAR SIR—I herewith submit report of the Footway Division for the year ending December 31, 1916.

This includes the maintenance and renewal of footways in front of city property; paving private footways by assessment; paving private three-foot alleys by assessment; miscellaneous repairs to footways, due to re-setting curb by this Department; and repairs to footways, under private paving and inspection, due to installation of sewer, water or gas connections, and the removal or installation of poles by the various corporations.

FOOTWAY NOTICES.

A total of 8,384 notices were served on property owners, to repave footways with cement. These notices covered footways that were in a dangerous or defective condition, or footways that did not conform to the proper grade.

CONCRETE FOOTWAYS LAID.

There were 8,742 cement footways laid in front of private property during the year. Of this number 6,553 were laid by property owners and 2,189 were laid under contracts let by the city. The area of the above is equal to 2,185,558

square feet, and when this amount is added to the area laid in front of city property it makes a total of 2,302,081 square feet of cement footways laid in the city during the year. This is equivalent to a footway 12 feet wide and 36 miles in length.

Footway Drainage.

The number of surface water drains placed under footways during the year was 9,202.

Paving Private Footways.

There were a number of property owners who failed to comply with the notices served on them to repave footways that were dangerous to pedestrians or otherwise in a defective condition, and these footways were listed for competitive bids and the work of repaving said footways was given to the lowest responsible bidders. The number of footways thus installed, under inspection by this Division was 2,189, at a total cost of $49,021.17. Assessments showing cost of the above work plus 3% for collection were sent to the City Collector for collection. Practically all of this work was done prior to July 1st. After that date the footways campaign was abandoned, due to the fact that a number of non-progressive property holders procured temporary injunctions restraining the city from laying footways in front of certain properties, and the city withheld from doing any further work until definite decisions could be rendered by the Courts.

Paving in Front of City Property.

New cement footways were laid around the following Public Buildings and Squares:

SCHOOLS.

Nos. 1, 4, 5, 6, 10, 11, 12, 19, 23, 30, 31, 34, 44, 48, 49, 53, 58, 62, 63, 72, 73, 75, 76, 82, 101, 105, 106, 107, 112, 113, 116, Western High School and Administration Building, Colored High School.

PARKS AND SQUARES.

Patterson Park, Pratt Street side; Ellwood Avenue to Linwood Avenue; Patterson Park, Ellwood Avenue side, Pratt to Gough Street; Brighton Square, and west side of Charles Street, 29th to 32nd Street.

MISCELLANEOUS CITY PROPERTY.

Vacant lot at Haubert and Clement Streets; Northeast Market; 333 Courtland Street; 406 Cathedral Street; City Hall Annex, and No. 21 Engine House.

Bids were received on the above work and contracts awarded to the lowest responsible bidders.

The area of cement footways laid in front of city property was 106,473 square feet.

Cost of the above work	$10,246.46
Repairs around various public buildings—	
Cost of labor	647.71
Cost of material	154.60
Total cost paving in front of city property	$11,048.77

In addition to the above work, contracts were also let for laying cement footways in front of city property, to amount of 60,380 square feet at an approximate cost of $5,433.81.

Paving Private Three-Foot Alleys.

Health orders were received for the repaving, under Ordinance No. 13, 388 private three-foot alleys, and at the end of the year 65 alleys had been completed and 47 under contract. The balance, 276, were being worked up preparatory to placing same under contract.

Private Paving and Inspection.

Three thousand four hundred and fifty-four repairs were made upon footways throughout the city upon orders from the various corporations, private parties and City Departments, as follows:

Water Department, 2404 locations at a cost of	$5,048.49
Sewer Division, 792 locations at a cost of	4,125.23
Chesapeake & Potomac Telephone Company, 212 locations	839.11
Inspector of Buildings, 9 locations	1,192.21
Board of Fire Commissioners, 5 locations	44.02
City Comptroller, 6 locations	94.88
Paving Commission, 1 location	9.44
City Forester, 25 locations	40.02
Private Parties	462.27
	$11,855.67

Included under the above caption is a job that deserves special mention; the work of paving the School Yard of No. 6 School, for the Inspector of Buildings Departments. Proposals for this work were submitted to various contractors, and the lowest bid received was twenty cents per square foot. This was considered too high and the work was turned over to this Division to be done by the Day Labor Force, and was completed at a cost of $985.17, thereby saving the city $826.83, since the total area paved was 9,060 square feet.

Footway Repairs.

Repairs were made throughout the city due to the re-setting of curb, changes of grade, etc., as follows:

Cost of labor	$41.46
Cost of material	16.44
Total cost	$57.90

This Division earned for the city, through the installation of footways, the following amount:

Paving private footways, 3% added for collection of bills	$1,470.64
Private paving and inspection, 10% added for inspection	1,087.05
	$2,557.69

Respectfully submitted,

C. S. McCollum,

Engineer in Charge of Footways.

Report of R. Brooke Maxwell, City Forester

1916

HIGHWAYS ENGINEER'S DEPARTMENT.

SUB-DIVISION OF FORESTRY.

BALTIMORE, January 1, 1917.

MR. R. M. COOKSEY, *Highways Engineer,*
City Hall, Baltimore, Md.

DEAR SIR—A provision of the 1916 Ordinance of Estimates required that all work done in 1916 be approved by the Board of Estimates.

The following work, therefore, which is a summary of that done by the Division of Forestry for the fiscal year ending December 31st, 1916, was approved in its entirety by the Board of Estimates:

I—TREE REMOVALS:

(a)	By the Division of Forestry	501
(b)	By private individuals	256
	Total	757

These trees were dead, dangerous, or otherwise undesirable. A special effort is made during the winter months of each year to remove all such trees from the streets and thereby do away with dangerous and unsightly nuisances. A number of these trees were lost as a result of storms, or escaping illuminating gas. Other causes were physical damage due to street improvement, and deterioration due to improved paving.

II—Tree Pruning:

(a)	By the Division of Forestry	3,194
(b)	By private individuals	1,501
(c)	By public service corporations	2,618
	Total	7,313

The regular pruning operations of the Division were centered as heretofore on the important streets where fine old trees are standing. Some of these are: E. Monument Street, Linden Avenue, Lombard Street, Hollins Street, John Street, Roslyn Avenue, Elsinore Avenue and Maryland Avenue. The work also included much pruning around public reservations, such as parks, squares and school houses. Besides the pruning of large trees on selected streets, an effort was made during the year to properly prune young trees planted by the Division, wherever this work was necessary. All guards were repaired and collars adjusted at the same time. Work of this kind was done on the following streets: Harford Avenue, Bartlett Avenue, North Avenue, Hoffman Street, Holbrook Street, Fort Avenue, Edmondson Avenue, Thomas Avenue, Park Heights Avenue, Westwood Avenue, Bolton Street, Mt. Royal Avenue, Garrison Avenue, St. Paul Street, University Parkway, Reisterstown Road and Wilkens Avenue.

The pruning done by private individuals was carefully inspected and regulated by the permit system as has always been done since the work began. The trimming done by Public Service Corporations was necessary to prevent dangerous contract with electric light wires, and was supervised by the Division.

III—Tree Spraying:

(a)	By the Division of Forestry	10,457

The operation of two (2) power sprayers made possible an increased amount of work. All trees which have been planted by the Division were carefully sprayed, and such other valuable trees on important boulevards as time and funds would permit. A great deal of spraying was also done for individuals who paid for the work at uniform standard prices. Spraying was directed against leaf-eating insects only.

IV—TREE PLANTING:

(a)	By the Division of Forestry	1,612
(b)	By private individuals	306
	Total	1,918

The trees planted by the Division of Forestry were paid for as follows:

1.	By private individuals or corporations (Planted upon request at $1.35 to $5 each.)	753
2.	By the Paving Commission	4
3.	By the Division of Forestry	855
	Total	1,612

The planting paid for by the Division of Forestry was of the following kinds:

1.	New plantings	771
2.	Replacing failures	84
	Total	855

Failures. The failures planted were those found in all plantings made since the work began. The per cent of failure for the year, therefore, which is usually less than 5%,

cannot be determined by a comparison of the failures planted during the year with the planting of 1916.

Varieties. The following list gives the number and varieties of trees planted during the year:

Species.	By the Division of Forestry.	By Individuals.
Oriental Plane.	575	156
American Elm.	195	18
Sugar Maple.	2	9
Norway Maple.	202	81
Pin Oak.	42	4
Silver Leaf Linden.	29	...
Silver Maple.	...	18
Red Maple.	...	4
Lombardy Poplar.	567	...
Horse Chestnut.	...	1
European Linden.	...	7
Magnolia.	...	8
Totals.	1,612	306

General Tree Planting Scheme. During the year a plan was drawn for planting the more important streets of the city. The aim of this plan is to connect by important in-town streets the more important parks and squares of the city. More than forty (40) miles of streets are included in the plan, requiring a total of approximately ten thousand five hundred (10,500) shade trees to complete it. Until the completion of this plan no other gratis planting should be done by the Division of Forestry.

V—Tree Cultivation. The work of cultivating the young trees planted by the Division of Forestry since 1912 was continued during the summer months. An effort was made to cultivate the soil around the base of the trees at least once every two weeks. This applied to more than five thousand (5,000) young trees.

VI—THE MUNICIPAL NURSERY. The sale of the River Bank Farm at Loch Raven made it necessary to transfer the forest and shade tree nurseries to another site. Land for the new nursery was generously provided by the Water Department at Montebello Filters. The nursery was transferred from Loch Raven to the new location in the fall of 1916, at a cost of $900.00. This cost included the manuring, plowing and harrowing the area. No trees of street size were available in the shade tree nursery in the spring of this year, but the following stock was furnished for the fall planting work:

Species.	Number.
Oriental Plane	232
Norway Maple	203
Pin Oak	42
Total	477

The following is a list of shade tree stock now standing in the Montebello nursery:

Species.	Size.	Number.
Oriental Plane	6′—8′	1,836
Oriental Plane	3′—5′	328
Norway Maple	8′—10′	831
Norway Maple	3′—5′	328
American Elm	6′—8′	1,365
White Ash	6′—8′	180
Pin Oak	3′—5′	352
Red Oak	3′—5′	210
Ginko	3′—5′	637
Lombardy Poplar	3′—5′	135
Total		6,202

Of the above stock approximately five hundred (500) trees will be available for street purposes in 1917.

A small forest tree nursery was also established in conjunction with the shade tree nursery. This nursery is the

property of the Water Department and is maintained for the purpose of supplying stock to fill failures in the planting at Loch Raven. It now contains the following stock:

Species.	Number.	Quality.
White Pine.	17,000	2—2 Stock
White Ash.	1,250	1 yr. Transplants
Red Oak.	3,600	1 yr. Transplants
Sugar Maple.	3,600	1 yr. Transplants
Total.	25,450	

VII—Forestry Operations at Loch Raven. The recent abolishment of the County Division of the Water Department made it necessary for the Division of Forestry to assume actual charge of all forestry work on the municipal watershed, instead of only advisory charge as heretofore.

(a) *Planting Work.* A revised planting plan was drawn up for all of the remaining unplanted areas. The total area covered by this plan was one thousand one hundred seventy-five (1,175) acres. Of this amount eight hundred fourteen (814) acres are yet to be planted. This area is largely abandoned farm land, lying along the Gunpowder River west of Bridge No. 2. At this time approximately three hundred seventeen thousand (317,000) trees have been planted on the water-shed, seventy six thousand five hundred (76,500) of them having been planted during 1916. The planting done during the fall season covered about fifty-six (56) acres. The greater part of the work consisted of white pine in pure planting. Small areas were planted with white ash and red oak in 50% mixture. This work was charged to the Water Department at cost plus 10%, and the cost per acre was $15.00.

(b) *Woodland Work.* Because of the ravages of the Chestnut blight, it was thought wise to dispose of all chestnut timber on the water-shed as fast as possible. With this end in view contracts were drawn up by the Water Department in collaboration with the Division of Forestry

and bids were invited. The specifications provided for the removal of all chestnut as poles, ties, mill timber, or cordwood, and the prices were submitted on these units. Provisions were made for the protection of growing timber, disposal of slash and refuse, and the heights of stumps. At this writing two (2) contracts have been let, covering all of the city's timber lands on both sides of the river between the Old Dam and the Yellott Bridge. The work of the contractors is now being supervised by the Division of Forestry at cost plus 10%.

VIII. Forestry Work at Back River. Of the city land at the Back River Disposal Plant, only a small portion is under forest cover. The timber on Ivy Point and Bread and Cheese Creek has been badly damaged by fires, and the chestnut was severely blighted. In order that the chestnut might not be a total loss, those trees which would make poles were recently disposed of under contract. Mr. William Bartels of Middle River was the successful bidder, and he removed a total of one hundred twenty one (121) poles. The funds derived from the sale of this material, viz., $126.80, will be used in 1917 to plant loblolly pine on certain abandoned areas at the Disposal Plant. Other cuttings should be made in these woodlands in order to save the mature or decadent timber, and to improve the remaining stand from a forestry viewpoint. A recent estimate of this timber shows a total of approximately sixty thousand (60,000) ft. B. M. to be removed. These trees have been blazed. The specifications covering the sale of the blighted chestnut poles were drawn so as to protect as far as possible the remaining growth. One item provided for the proper piling and burning of the brush and debris resulting from the cutting.

Very truly yours,

R. Brooke Maxwell,

City Forester.

Report of Bruce Aldrich, Chief Asphalt Inspector 1916

HIGHWAYS ENGINEER'S DEPARTMENT.

SUB-DIVISION OF MUNICIPAL LABORATORY.

BALTIMORE, January 27, 1917.

R. K. COMPTON, *Chairman Laboratory Committee.*

Baltimore, Md.

DEAR SIR—I herewith submit the report of the operations of the Asphalt and Chemical Divisions of the Municipal Laboratory, for the year ending December 31st, 1916:

During the year 1916 there were laid 358,912.44 sq. yds. of Sheet Asphalt and Bituminous Concrete, of which the Paving Commission laid 236,067.29, the Commissioners for Opening Street 77,909.00 and the Highways Engineer 44,936.15 square yards. All the materials entering into this paving was inspected at the various plants and daily analyses made of the mixtures, which were taken on the street, twice a day. This Department also tested all other Bituminous materials used by the various City Departments, such as Road Oils, Road Binders, Block Fillers, etc.

In addition to the above, 12,600 tons of Anthracite, 35,800 tons of Bituminous coal and 100 tons of coke were purchased under the supervision of this office. The Anthracite tonnage mentioned above not only included the regular sizes required by the various City Departments, which were under contract, such as Nos. 1, 2, 3 and Nut, but also Pea, Buckwheat No. 1, Rice and Barley, which were experimented with at the several power plants, which heretofore used large tonnages of Bituminous Coal. The purchase of these small

sizes was brought by the excessively high price of Bituminous Coal.

This department has handled the open market purchases of Bituminous Coal for the city, sending proposals each month to all dealers and shippers, recommending to the Purchasing Agent, through the Laboratory Committee, the most suitable coal at the lowest figure.

Test and examinations of Lubricating Oils, Greases, Gasolines, Kerosenes, Fuel Oils, Brass, Bronze, Bricks, Lead and Candles were made for various Departments.

REPORT OF THE SAMPLES EXAMINED AT THE MUNICIPAL LABORATORY, JANUARY 1, 1916, TO DECEMBER 31, 1916.

Asphalt Division.

Asphalt cements from plants	618	
Surface mixtures	684	
Binder mixtures	6	
Bituminous concrete	1	
Bituminized road	1	
Mastics	1	
Asphalt blocks	50	
Wood blocks	6	
Standard Mexican asphalts	44	
Montezuma Mexican asphalts	32	
Aztec Mexican asphalts	3	
Prudential Mexican asphalts	1	
Stanolind Mexican asphalts	1	
Texaco asphalts	1	
Trinidad asphalts	10	
Asphalt fluxes	25	
Block fillers	18	
Expansion joint fillers	4	
Bituminous road oils	17	
Tar road oils	11	
Oil emulsions	1	
Roc-Mac	1	
Sands	65	
Crushed stone	8	
Limestone dust	3	
Curb bars	1	
		1,613

Chemical Division.

Buckwheat coal No. 1	3	
Pea coal	1	
Rice coal	1	
Smithing coal	2	
Bituminous coal	328	
Gasoline	7	
Kerosene	2	
Lubricating oils	31	
Greases	9	
Brass	1	
Bronze	11	
Fuel oil	1	
Brick	1	
Candles	2	
Cast stone cubes	1	
		401
Grand total for Asphalt and Chemical Divisions		2,014

Tonnage of Coal and Coke, Purchased by the City, During the Year 1916, Under the Supervision of the Municipal Laboratory.

Anthracite	12,600 tons
Bituminous	35,800 tons
Coke	100 tons
Total	48,500 tons

Summary of Expenditures of the Municipal Laboratory, Asphalt and Chemical Divisions, for the Year 1916.

Asphalt Division—		
Salaries		$7,912.36
Equipment and maintenance		1,339.94
		$9,252.30
Credit:		
Insp. for S. R. Com.	$63.50	
Asphalt analyses	27.00	
		90.50
		$9,161.80

Chemical Division—		
Salaries	$1,966.61	
Equipment and maintenance	659.97	
	$2,626.58	
Credit, Misc. Analyses	42.50	
		2,584.08
		$11,745.88

SHEET ASPHALT AND BITUMINOUS CONCRETE LAID DURING THE YEAR.

Paving Commission (sheet asphalt)	236,067.29 sq. yds.
Coms. for Open. Sts. (sheet asphalt)	77,909.00 sq. yds.
Highways Eng. Dept. (sheet asphalt and bituminous concrete)	44,936.15 sq. yds.
Total	358,912.44 sq. yds.

Cost of inspection per square yard	$.02204537
Cost of equipment and maintenance per square yard	.00348118
Total cost per square yard	$.02552655

Respectfully submitted,

BRUCE ALDRICH,

City Asphalt Inspector.

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Annual Report

Department of Legislative Reference

To the

MAYOR AND CITY COUNCIL OF BALTIMORE

For the

FISCAL YEAR ENDED DECEMBER 31

1916

BALTIMORE
KING BROTHERS
CITY PRINTER

1917

REPORT

BALTIMORE, MD., January 2, 1917.

To the Honorable the Mayor and City Council of Baltimore.

GENTLEMEN:

I submit herewith the annual report of the Department of Legislative Reference for the year ending December 31, 1916.

The work of the Department has been continued along the usual lines during the past year. During the past four years, the Department has been receiving a duplicate copy of all ordinances and resolutions introduced into the City Council, and as our index shows who introduced the ordinance, to what committee referred, and every stage of progress from introduction to approval or veto by the Mayor, it has proved of the greatest convenience and value to members of the City Council, city officials, and those who are interested in municipal legislation. Its value and convenience can be realized when it is stated that it is the only place in the city where there is a file of all pending ordinances and resolutions, for heretofore it has been impossible for anyone to consult and examine pending ordinances except when the Council was in session.

The Department has been used more frequently during the past year than ever before, but it is not possible to give a complete list of topics on which information has been given. Among the topics, however, on which information

was given may be mentioned the following, which will show the wide variety of subjects on which information was asked:

Coroners
Bread—Wrapping
Electric rates
Legislative employees—Appointment of
Inheritance tax
Court clerks
Insane—Maintenance of
Traders' licenses
Gas shutoffs
Fire department—ambulances
Docks and piers—Rentals
Conduits—Rentals
Sunday legislation
Taxation—Freight lines
Taxation—General
"Daylight" saving
Water systems—Maryland towns
Wharves—Franchise charges
Teachers—Salaries
Gasoline—Standards and tests
State Budget
Liquor licenses
Fish
Crabs
Racetrack commissions
Prohibition—Laws
True consideration in deeds
Labor legislation
State limestone plants
Electrocution
Annexation
Capital punishment
Legislative expenses
Torrens system of land registration
Absent voting
Negroes—Segregation
Economy & efficiency commissions
Municipal pensions
Liquor licenses

Following our previous practice, a letter was sent to each senator and delegate of the Maryland General Assembly immediately after the November election in 1915, calling attention to the work of the Department and offering to place at the disposal of any member any of the information already collected, or to collect information on any topic desired. The Department was called upon quite frequently for information about proposed or pending legislation.

There is in the Department a complete index of all the House and Senate bills introduced at the 1908, 1910, 1912, 1914 and 1916 sessions of the Legislature, as well as a complete file of the bills themselves. Through the kindness of the General Assembly, the Department received regularly fifteen copies of all bills which were introduced, and this enabled those in Baltimore, who were interested in pending legislation to secure copies of the bills without having to

go to Annapolis. Arrangements had been made to exchange bills with similar departments in New York, Massachusetts, Pennsylvania, Indiana, Wisconsin and a few other States. The Department also received a copy of each bill in its final form, so that there was on file in the Department a copy of each bill as finally passed, with the approval or veto of the Governor indicated thereon. This proved of particular value during the period from the passage of the laws until the publication of the laws, which was some three or four months after the adjournment of the Legislature.

The Department hopes to be of still greater value to the next General Assembly of Maryland, since a bill was passed during the last session authorizing the Department to maintain an office at Annapolis during the sessions of the General Assembly. The following is a copy of the bill as passed:

"CHAPTER 474.

"*Be it enacted by the General Assembly of Maryland*, That, in addition to the duties to be performed by the Department of Legislative Reference, as created by Chapter No. 565 of the Acts of 1906 of the General Assembly of Maryland, it shall be the duty of the executive officer of the Department of Legislative Reference to investigate and report upon the laws of this and other States relating to any subject upon which he may be requested so to report by the Governor of Maryland, any committee or member of the General Assembly, or the head of any State Department; to accumulate all data obtainable in relation to the practical operation and effect of such laws; to investigate and collect all available information relating to any matter which is the subject of proposed legislation by the General Assembly; to examine the acts and records of any State and report the result thereof to the Governor, any committee of the General Assembly, or the head of any State Department requesting the same; to prepare or aid in the preparation

of any bill or resolution when requested so to do by any member of the General Assembly; to preserve and collate all information obtained, carefully indexed and arranged so as to be at all times easily accessible to State officials and open to the inspection of the general public; and to have an office at Annapolis during the sessions of the General Assembly, in order to facilitate the work of the Department for members of the General Assembly."

In order that those who are not thoroughly familiar with the work of the Department may have some idea of the nature of the work which is being done, it seems desirable to give at least a brief list of the material on file. The following list, while not exhaustive, will give some idea of the material on file and which may be consulted by anyone:

Abattoirs
Absent voting
Accidents—Prevention
Agricultural co-operative credit association
Almshouses
Annexation
Apportionment of representation
Arbitration—Industrial
Art commissions
Assessments—Special
Automobiles—Municipal
Bakeries—Sanitation
Banks—Co-operative
Banks—Taxation
Bar associations
Baths
Bill drafting
Billboards
Blind
Boards and commissions
Bonds—Serial
Bonds—Taxation
Budgets
Building codes
Capital punishment
Charities
Charter revision
Charters and ordinances
Child labor
Child welfare
Cigarettes
Citizenship
City planning
Civic associations
Civil service
Cold storage
Commerce
Commission government
Complaint bureaus
Condemnation of land
Conservation
Constitutional conventions
Convict labor
Coroners
Corporations—Laws
Corrupt practices
Cost of living
Counties—Government
Courts—Procedure
Dance halls
Dangerous trades
"Daylight" saving
Depositories—Laws
Diseases—Industrial
Divorce
Dogs—Laws
Drinking cups

Drugs
Efficiency
Elections—Laws
Electricity
Electrocution
Elevators
Employers' liability
Employment bureaus
Epileptics
European War
Excess condemnation
Explosives
Express companies
Factory inspection
Feeble-minded
Filtration
Financial reports of cities
Financial reports of States
Fire department—ambulances
Fire departments—Equipment
Fire protection
Fish—Laws
Flies
Food—Laws
Forestry
Franchises
Garages—Municipal
Garbage—Collection
Garbage—Disposal
Gas—Rates
Governors' messages
Grade crossings
Harbors
Home rule
Hours of labor
Housing
Illiteracy
Immigration
Income tax
Indeterminate sentence
Industrial accidents
Industrial education
Inebriates
Infant mortality
Inheritance tax
Initiative
Insurance—Investments
Insurance—Laws
Insanity
Irrigation
Jitney buses
Judges
Jury commissioners
Juvenile courts
Juvenile delinquency
Labor—Laws
Labor—Reports
Laws of States
Legislative procedure
Legislative printing
Legislative reference work
Licenses
Liquor licensing boards
Liquor problem
Loan sharks
Lobbying
Markets
Maryland Legislature
Mayors' messages
Meats
Milk
Mines and mining
Mosquitoes
Motion pictures—Censorship
Municipal courts
Municipal leagues
Municipal lighting—Rates
Municipal lighting—Reports
Municipal newspapers
Municipal ownership
Municipal research
Municipalities—General
Negro segregation
Negro suffrage
Noise
Old-age pensions
Open-air schools
Oysters
Parcel post
Parks
Parole
Paving
Pensions—Mothers'
Pensions—Municipal
Playgrounds
Plumbing
Police departments
Police—Uniforms
Postal savings banks
Presidential preference primaries
Primary elections
Prisons
Probation
Prohibition

Proportional representation
Public comfort stations
Public health
Public officers
Public service
Public utilities commissions
Purchasing
Racetrack gambling
Railroads—Electrification
Railroads—Rates
Railroads—Regulation
Railroads—Terminal facilities
Rats
Recall
Recreation
Referendum
Representation
Roads
Salaries and fees
Savings banks Insurance
Schools—Compulsory attendance
Schools—Consolidation
Schools—Medical inspection
ools—Neighborhood use
Sewer sludge
Sewerage
Short ballot
Single tax
Smoke
Social evil
State constitutions
Street cleaning
Street lighting
Street railways
Subways
Sunday
Swimming pools
Switching charges
Tariff
Taxation
Telephones—Government ownership
Testing laboratories
Torrens system
Towels
Traffic
Trees
Tuberculosis
Typhoid fever
Unemployed
Uniform accounting
Vital statistics
Vocational education
Voting
Wages
Water rates
Water supply
Water ways
Weapons
Weights and measures
Woman suffrage
Workmen's compensation
Zoning districts

There are now on file in the Department 2,638 books and 14,350 pamphlets. In addition to the books and pamphlets, there is quite a collection of magazines, legislative bills of other States, newspaper clippings, duplicate copies of some of the more important pamphlets and documents, articles clipped from magazines, as well as a complete file of the bills for the last five sessions of the Maryland Legislature.

The total expenditures of the Department for the year 1916 were $3,840.

The officials of the city and State have been most courteous in furnishing the Department with reports, information, etc., when so requested, and I desire to take this occa-

sion again to extend my hearty thanks for their valuable co-operation and assistance.

I also desire to take this occasion again to commend the industrious and efficient work of my assistants, Misses Ella S. Hitchcock and Nellie W. Mewshaw.

Very respectfully submitted,

HORACE E. FLACK,
Executive.

FIFTY-SEVENTH ANNUAL REPORT

OF THE

Board of Park Commissioners

TO THE

Mayor and City Council of Baltimore

FOR THE

FISCAL YEAR ENDING DECEMBER 31, 1916

BALTIMORE
KING BROTHERS
CITY PRINTER

1917

Report of the Board of Park Commissioners

BALTIMORE, March 15, 1917.

To the Mayor and City Council of Baltimore,
Baltimore, Md.

GENTLEMEN:

We submit the following report of this Department for the year 1916:

The Park Tax receipts, which it was estimated in making up the budget for the year 1916 would amount to $640,300.00, did not reach that figure, the amount collected being $625,-431.51.

The disbursements for all purposes excepting park extension made during the year amounted to $610,965.26, and this Department had to its credit at the close of the year $59,-834.74, out of which bills incurred during the year, but unpaid because unpresented, amounting to $30,732.65, were to be paid.

The Board pays from its receipts certain annual fixed charges consisting of ground rents on park property amounting annually to $6,820.12, and of sinking fund requirements and interest on city stock, the proceeds of which were used for parks, amounting this past year to $123,071.58, or a total for fixed charges of $129,891.70, for the year, or more than 20% of the entire Park Tax.

During the year the central portion or unit of the field house has been erected at Clifton close to the swimming pool, which will contain the necessary facilities for those using the pool, and, likewise, showers, etc., for all year round bathing.

In this park there was also laid out a golf course of eighteen holes, which has proven quite popular, and which will be further improved as to trees and greens during the present year.

The playground facilities in this park for small children have been increased and improved.

The parking of 33rd Street, which, with the Alameda, will connect Clifton Park with Wyman Park, has been seeded. It is hoped that the Alameda will be completed during the present year.

In Venable Park, through which 33rd Street runs, an exchange of certain small lots has been consummated with the Hoen Estate, in order to straighten out lines, and proceedings have been taken to close Tinges Lane, which will increase slightly the area of this Park.

An underground electric lighting system has been constructed in Wyman Park, with the artistic standards and globes found in our other large parks. New lighting systems have also been installed in Harlem Park and Perkins, Franklin, Union and Lafayette Squares.

The acquirement of a strip of land abutting on Easterwood Park and separating that area from Baker Street has been authorized and will be accomplished by purchase or condemnation.

The bathing beach at Fort McHenry Park has continued to enjoy popularity during the heated season, and the facilities will be increased by the removal of the Canteen Building and its conversion into a public bath house.

It is expected that the boat clubs will be removed to this Park during the current year.

A very considerable sum of money will have to be expended on this area to provide the setting for the Key Monument to be erected by the Federal Government, and for the construction of a system of roads and paths.

This Department has had up for some time with the City Solicitor the acquisition of a particular area in the congested portion of East Baltimore, admirably located and suited for the purpose, but the title, which can be obtained, to the land presents certain legal difficulties which have first to be disposed of. It is hoped that these difficulties may be overcome or arranged so that this land may become part of the park system, for everyone familiar with the situation realizes that more breathing spaces and areas for playgrounds, etc., are needed in our most populous sections.

In this connection we may note that certain philanthropic ladies and gentlemen have been before our Board to call attention to conditions in several neighborhoods in different parts of the City which they think could be greatly improved by the acquisition of small areas for park purposes, and have offered to aid financially. They particularly emphasized a congested area north of Biddle Street, between Pennsylvania and Druid Hill Avenues. At their instance an Ordinance authorizing the acquisition of a small area in this locality for park purposes has been prepared, and introduced into the City Council. The plan as presented meets with our hearty approval.

Green Spring Avenue was put under the care of this Department nearly twenty years ago. In order to keep it reasonably safe and in fair repair, considerable expenditures are required each year. For quite a distance it runs through Baltimore County, and we can see no sound reason why the maintenance of this road, outside of the City limits, should be a charge on the finances of the City or of this Department.

We have written the County Commissioners of Baltimore County suggesting that they take over the care of this highway, to the extent that it is beyond the limits of the City, but this they have declined to do, and cannot be compelled

by law to do without the repeal of the legislation which imposed this duty on the Park Department. We, therefore, most strongly urge that every effort be made at the next session of the General Assembly to obtain appropriate legislation to relieve the City and this Department of this burden.

Work on Gwynn's Falls Parkway was again started during the latter part of the year by the Commissioners for Opening Streets. As is well known, this parkway is planned to connect Druid Hill and Gwynn's Falls Parks. The project has at all times had the warm approval of this Department, and our interest therein will of course continue as in the past.

Careful consideration has been given in the past year to the question of athletic facilities in Druid Hill Park. This park, the largest in area, and the most important in the system, is lacking a swimming pool, field house and proper facilities for track athletics, and sufficient baseball diamonds. The topography of the land is such that it would require much grading to prepare for a proper and adequate athletic field, and a rough estimate has been made that the cost of equipping this park with the athletic facilities above mentioned, including swimming pool, would be close to $200,000. This improvement should be at least commenced as promptly as practicable.

The details of the work done by the Department are contained in a report of the General Superintendent, which is attached hereto.

Respectfully submitted,

George Weems Williams,
President.
George Washington Williams,
J. Cookman Boyd,
Edward Hanlon,
Board of Park Commissioners.

Report of the General Superintendent
FOR THE YEAR 1916.

BALTIMORE, February 20, 1917.

To the Honorable Board of
Park Commissioners of Baltimore.

GENTLEMEN:

The amount of money expended in the Park System during 1916, not including Park Extension, was $610,965.26, and cash in bank at the close of the year, exclusive of loan balances, amounted to $59,834.74* with which to pay all 1916 bills outstanding.

From early spring until late fall there was an unusual amount of rainfall, and so uniformly distributed that the grass of the lawns was green and growing throughout the spring, summer and fall, and lawn cutting was continuous, whereas it is ordinarily expected that during July and August lawn mowing can be done much less often because a usual shortage in the rainfall materially lessens the growth of grass.

There was comparatively little tree and shrub planting in any of the parks during the year, although around Clifton Park Swimming Pool there was transplanted from old plantations in Druid Hill, Wyman, Patterson and Clifton Parks, a large number of large and small growing shrubs for the purpose of forming a dense growing mass of branches with foliage to separate the areas surrounding the Swimming

(*$38,331.70 forwarded on open account—$21,503.04 forwarded to Revenue.)

Pool, which will be thronged with people in bathing suits from the lawn or other park spaces near by.

During the year there has been built here the lower portion of a centrally located building—one of three—all of which are intended for swimming pool, gymnasia, dancing and social gathering purposes. The lower half of this building is of substantial construction, being built of reinforced concrete with oak woodwork in the doors and windows. The cost has been about $36,000.00. It will be used particularly by those who patronize the swimming pool and the indoor shower bathing, and will be operated during the summer months by the City's Free Public Bath Commission.

An eighteen hole golf link was laid out at Clifton Park with the old Johns Hopkins Mansion as a gathering place and starting point for the golf players. This has been a very popular feature and it has been much used.

The Golf Course starts from a place near the Mansion and the United Railways Company's passenger waiting station, following along side the Harford Road, then bears to the right and along paralleling Erdman Avenue, then again bearing to the right and paralleling Belair Road to the slope of Lake Clifton embankment. The players then return by a course somewhat paralleling the route just described to the place of commencement.

A meeting room with ample light and substantial chairs in the Johns Hopkins Mansion has been made available for the use of the public. This room is much used as a gathering place for business meetings of local organizations, as well as for social gatherings.

The Public Athletic League continue as of last year, to furnish young women as play and entertainment leaders at this Mansion, in rooms, porches and on nearby lawns. This work is splendidly handled and does much good among a

large number of young women, girls and young men and boys.

The twenty-six tennis courts located near the Clifton-Johns Hopkins Mansion are probably the most popularly used tennis courts in the Park System.

The conveniences of showers, lockers, rest rooms, porches, etc., which the Mansion furnish, largely contribute to this popularity.

The Clifton Park Children's Playground, with its very full outfit of apparatus, and also the gymnasia area, with its running track and other features, are much used.

At Clifton Park along side of Harford Road near Erdman Avenue is a fine deposit of gravel with sand intermixed, a gasoline engine driven screening machine was there installed last spring, and screening has continued during the summer and fall producing many thousands of tons of different size gravel and sand which has been hauled by the five-ton truck to Druid Hill Park, Carroll and Patterson Parks for use in concrete work and particularly in road and path resurfacing.

Green Spring Avenue surfacing has been in process with much stone from the Druid Hill Park Quarry until that road was put in first class condition from Woodberry Avenue to the old Pimlico Road, the edges of the road beyond either edge of the macadam road bed have been smoothed and cleared of weeds until the general appearance of the road as a whole is better than at any time heretofore.

Wyman Park has had electric lights on ornamental iron posts fed with electrical underground cables, installed along either side of its driveway from University Parkway to the Union Sailors and Soldiers Monument on the Mt. Royal Driveway in Druid Hill Park, with four beautiful large cluster lights on the reinforced concrete bridge over the Md. & Penna. Railroad. This same lighting installation extends

in Wyman Park from a point where the Wyman-Druid Hill Road leaves the Wyman Road, at the U. S. Marine Hospital to 29th Street, and to 31st Street, along side of the path which passes the tennis courts, and also along side of the valley paths which leave and parallel 29th Street and Charles Street.

A public comfort station, with conveniences for both sexes, was installed in the grove section of Wyman Park, lying between the valley along side Charles Street and Johns Hopkins Universty Grounds.

A Children's Playground area is in process of making, by public dumpage, in that portion of Wyman Park lying between Huntington Avenue and the Atkinson Quarry, along side of Viaduct Avenue following the park boundary lines between these two points. This location is at a place where large numbers of children live, who will be delighted to use the playground facilities.

Druid Hill Park has never heretofore been so much used by people seeking quiet out-of-door recreation such as picnicing in its wooded areas, roaming about its fine lawns and sitting upon them, boating, seeing the animals at its Zoo and at the Duck Pond—playing tennis, baseball, lacrosse, military maneuvers, horseback riding and automobiling, as well as lawn pageants and children's playground features, together with sitting upon its benches for reading, conversation and rest.

Carroll Park, with its athletic grounds, with running track, infield and apparatus, its ten-acre parade ground, and there its three baseball grounds, together with the finely equipped children's playground, music pavilion, the largest and best in Baltimore, formal terrace gardens and the finely kept surroundings of the historic Old Colonial Carroll Mansion, built in 1758, constitute the finest public or private

area of its kind in Maryland. The use of these facilities is each year increasing.

Fort McHenry's bathing beach and the building where the bathers change their clothing were further equipped by additional lockers and increased water space—the use of these each year increases.

Latrobe Park addition's available space has been increased by public dumpage filling and more play space thereby provided.

Patterson Park's thirty-five acres of athletic areas and children's playground, together with its eleven acre athletic and parade ground addition and four acre swimming pool, all fully equipped with field house, running track and apparatus, constitute a most complete layout for active out-of-door sports and draw enormous crowds of people to witness the special events.

Gwynn's Falls, with its Mill Race Walk, Young Women's Recreation Grounds, its electrically lighted cement tennis courts, and the many beautiful rural scenes draw many people.

Thirty-third Street's central parking spaces have all been filled with good loam, which was fertilized and prepared for seeding, as were all of the tree pits filled with loam and stable manure into which will be planted shade trees. The lawn seeding of these park spaces was completed and a fine stand of lawn grass resulted.

There was grown in the Park System's greenhouses about five hundred thousand bedding plants with pansies, all of these plants were used in the various parks and squares of the Park System, as well as in connection with the decoration of the Holliday Street side of the City Hall and the Court House—St. Paul Street Plaza for the Elks Convention period.

Electric lights on ornamental iron posts, electrically supplied by underground cable were installed in Harlem, Perkins, Franklin, Union and Lafayette Squares.

The flow of water through all of the display fountains was very materially reduced, and all of the bubble drinking fountains were equipped with self-closing valves. These flow reductions were made to save water which had to be supplied through the City's New Filtration Plant.

The forestry work has continued throughout the year in the larger parks and the squares. This work has been particularly in the trimming and cleaning of trees generally, as well as the sterilizing and mending of wounds.

Respectfully submitted,

WILLIAM S. MANNING,
General Superintendent.

PUBLIC PARKS AND SQUARES.

December 31, 1916.

Parks and Squares.	Acquired.	Acreage.	Ground Rent.	Cost.	Lindsay & Bernard Valuation 1911.	Buildings.	Total.
Mt. Vernon Squares (2)	1815	1.24	.....	Donated.	Not valued†	.....	.....
Washington Place Squares (2)	1815	1.05	.....	Donated.	Not valued†	.....	.....
Eastern City Spring Square	1818	1.34	.....	$15,000.00	$15,750.00	$ 375.00	$16,125.00
Patterson Park	1827	132.8	.....	465,157.29	513,760.00	106,390.96	607,150.96
Franklin Square	1839	2.35	.....	10,000.00	45,067.00	750.00	45,817.00
Jackson Square	1844	66	.....	Donated.	Not valued†	.....	.....
Union Square	1847	2.25	.....	Donated.	33,800.00	750.00	34,550.00
Broadway Squares (19)	1851	6.9	.....	28,661.48	Not valued†	.....	.....
Ashland Square	1851	0.02	.....	200.00	Not valued†	.....	.....
Madison Square	1853	3.59	.....	30,000.00	35,000.00	603.00	35,603.00
Eutaw Place Squares (9)	1853	5.6	.....	60,000.00	Not valued†	.....	.....
Lafayette Square	1859	2.87	.....	15,000.00	49,500.00	750.00	50,250.00
Druid Hill Park	1860	674.61	.....	720,760.53	3,360,000.00†	194,955.95	3,554,955.95
Park Place Squares (7)	1860	1.77	.....	Donated.	Not valued.a	.....	.....
Riverside Park	1862	17.97	$3,770.62*		13,235.00	9,885.55	23,120.55
Fulton Avenue Squares (17)	1866	3.2	.....	Donated.	Not valued†	.....	.....
Harlem Park	1869	8.32	.....	Donated.	110,700.00	3,534.95	114,234.95
Wilkens Avenue Squares (7)	1870	1.1	.....	30,000.00	Not valued†	.....	.....
Perkins Spring Square	1873	1.16	2,052.00*		¶	.....	.....
Mt. Royal Squares (7)	1874	2.05	.....	9,790.28	Not valued†	.....	.....
Johnson Square	1877	2.65	.....	20,000.00	24,000.00	335.00	24,335.00
Federal Hill Park	1879	9.62	37.50	106,135.46	79,662.00	5,397.80	85,059.80
Collington Square	1880	5.16	960.00*		32,000.00	335.00	32,335.00
Liberty Triangle	1880	.02	.....	Donated.	Not valued†	.....	.....

PUBLIC PARKS AND SQUARES—Continued.

December 31, 1916.

Parks and Squares.	Acquired.	Acreage.	Ground Rent.	Cost.	Lindsay & Bernard Valuation 1911.	Buildings.	Total.
Taney Place Squares (2)	1881	.83	.....	Donated.	Not valued†	.....	.....
Mount Royal Terraces (3)	1884	2.13	.....	$44,677.58	$77,500.00	.....	$77,500.00
Carroll Park	1890	176.95	.....	307,229.42	618,590.00	$83,783.60	701,672.60
Bolton Park (Mt. Royal Station)	1891	3.52	.....	103,433.00	160,000.00	.....	160,000.00
Frick Triangle	1892	.05	.....	Donated.	Not valued†	.....	.....
Brewer Square	1892	0.35	.....	Donated.	Not valued†	.....	.....
Bo-Lin Square	1893	.23	.....	Donated.	Not valued†	.....	.....
Maple Place	1893	0.11	.....	Donated.	Not valued†	.....	.....
Clifton Park	1895	267.05	.....	754,125.81	666,000.00	127,555.63	761,555.63
Clifton Lake and Slopes	....	12.26	.....		.....	.....	.....
Linden Avenue Triangle	1895	0.04	.....	Donated.	Not valued†	.....	.....
Green Spring Avenue	1896	20.5	.....	Donated.	Not valued†	.....	.....
Callow Triangle	1898	0.02	.....	Donated.	Not valued†	.....	.....
Gwynn's Falls Park	1902	352.71	.....	337,831.80	322,964.95	32,141.60	355,106.55
Latrobe Park	1902	12.47	.....	40,590.00	48,300.00	8,118.14	56,418.14
Swann Park	1902	11.31	.....	39,474.52	45,240.00	.....	45,240.00
Wyman Park	1903	135.27	.....	122,604.12	238,068.00	1,826.00	239,894.00
Fifth Regiment Armory Lot	1904	.25	.....	Donated.	Not valued†	.....	.....
City College Lot	[illegible]	.14	.....	Donated.	Not valued†	.....	.....
Riggs Triangle	1905	.02	.....	456.00	Not valued†	.....	.....
Venable Park	1907	50.90	.....	67,726.00	48,648.00	.....	48,648.00
Ashburton Park and Reservoir	1907	95.09	.....	36,052.40	36,855.00b	.....	36,855.00
Herring Run Park	1908	180.79	.....	118,724.38	99,064.92	.....	99,064.92
Charles Street Boulevard	1908	2.98	.....	23,823.51	Not valued†	.....	.....

Parkway Triangle	1908	.29	.....	(See Note)x	.....	.....	.....
University Parkway	1908	10.75	.....	(See Note)	.....	.....	.....
Philadelphia Road Triangle	1910	1.35	.....	26,737.52	13,200.00	.....	13,200.00
Easterwood Park	1911	6.92	.....	23,500.00	23,500.00a	.....	23,500.00
Mondawmin Squares (4)	1911	0.31	.....	Donated.	†	.....	.....
Fort McHenry Reservation	1914	52.97	.....	Donated.	.....	.....	.....
Thirty-third Street	1916	4.64	.....	(See Note)	.....	.....	.....
Alemeda Squares	1916	1.	.....	(See Note)	.....	.....	.....
Thirty-ninth Street Square	1916	.54	.....	(See Note)	.....	.....	.....
Pimlico Circle (center)	1916	.41	.....	(See Note)	.....	.....	.....
Fallsway—North	1916	.38	.....	(See Note)	.....	.....	.....
Fallsway—South	1916	.16	.....	(See Note)	.....	.....	.....
Gwynn's Falls Parkway	1916	.37	.....	(See Note)	.....	.....	.....
St. Paul at Centre Street	1916	.61	.....	(See Note)x	.....	.....	.....
Riverside Avenue	1916	.09	.....	(See Note)	.....	.....	.....
Montgomery & Sharp Sts.	1916	.06	.....	(See Note)	.....	.....	.....
Potomac St. Square	1916	.06	.....	(See Note)	.....	.....	.....
Aisquith & Fayette	1916	.04	.....	(See Note)	.....	.....	.....
Totals	.....	2,295.22	$6,820.12	$3,557,691.10	$6,710,404.87	$577,488.18	$7,242,192.05

*Owned by Commissioners of Finance and deducted in Lindsay and Bernard valuation and listed as asset of sinking fund in Schedule B-XVIII.

†Treated as part of street.

‡Lindsay and Bernard figured on continuing the lakes as part of the water system, and deducted acreage of lakes, leaving 560 acres available at $6,000 per acre.

¶After deducting the ground rent at 4 per cent, the leasehold would have no value.

(a) Acquired after Lindsay and Bernard valuation and cost price shown as value.

(b) Reservoir acreage of 40 acres deducted.

(c) $20,375.05, amount paid for land in 1912-1914, added to Lindsay and Bernard's valuation.

x—From Street Improvement.

SIXTH ANNUAL REPORT

OF THE

PAVING COMMISSION

To the Mayor and City Council of Baltimore for the
Fiscal Year Ended December 31, 1916

BALTIMORE
KING BROTHERS
CITY PRINTER

917

PAVING COMMISSION'S REPORT

BALTIMORE, MARYLAND, January 1, 1917.

Hon. James H. Preston, Mayor.

DEAR SIR:

In accordance with the requirements of Section 1, Chapter 401, Acts of the General Assembly of Maryland for the year 1906, the Paving Commission has the honor to make the following report of its operations and transactions for the period embraced from December 31, 1915 to the close of business December 31, 1916.

Our operations for the year were somewhat limited, owing to our appropriation being much smaller than usual, and also due to the unusual stringent labor conditions existing in this city during the entire working season. This existed to such an extent that contractors were unable to complete their work, and we carry over two Sheet Asphalt and one Hillside Vitrified Brick contracts to the 1917 season.

Our operations were confined principally to the extreme western section of the old city, the southwestern section and the southeastern section, with a few streets improved through the central section of the city. The following is the list of main thoroughfares improved:

Lexington street, from Eutaw street to Liberty street; Light street, from Weyler street to Hill street; Linden avenue, from North avenue to Whitelock street; Calvert street, from Pleasant street to Read street; Baltimore street, from Bentalou street to Fremont avenue; Wilkens avenue, from Fulton avenue to Gilmor street; Hollins street, from Calverton Road to Carrollton avenue; Frederick avenue, from

Bentalou street to Gilmor street; Eutaw street, from Ostend street to Lee street; Guilford avenue, from Lexington street to Bath street; Bush street, from Ridgely street to Columbia avenue; Wicomico street, from Bush street to Scott street; Mosher street, from Monroe street to Arlington avenue; Stricker street, from Cole street to Calhoun street.

In addition to the above, numerous other streets and alleys were improved, tying up with the main thoroughfares. Under this system we have connected up the interior city traffic with the northwestern section of the city leading towards Walbrook, the suburban traffic taking the Frederick Road, and also the suburban traffic taking Wilkens avenue.

The improvement of Bush and Wicomico streets ties up with the central section of the city, and makes it accessible to a very large manufacturing territory.

The improvement of Lexington street practically completes our retail shopping section, while the improvement of Calvert street gives a main thoroughfare north and south, relieving the congestion on St. Paul and other streets paralleling.

Altogether we improved during the year 1916, 54 streets or sections thereof, making a total number of 507 streets or sections thereof paved since the inception of the Commission to December 31, 1916.

Sheet Asphalt was used almost exclusively. In a number of cases where the old Granite Blocks were taken up off the streets they were recut and relaid in an improved manner in track areas, or else were hauled to and paved in streets around the freight territories and around the water front, and also in heavy traffic alleys in the wholesale section. This Recut Granite makes a most excellent pavement.

For the alley work Cement Concrete was used to a very large extent where the traffic is light and the alleys practically free from water. Where the traffic was heavier and

a considerable amount of water existed, shallow Vitrified Blocks were used.

Acting upon the suggestion of Your Honor, the Chairman of the Commission is making every effort to induce outside contractors to come here and compete on the work in Baltimore City, not only the work of the Paving Commission, but that of the Annex Commission and the Highways Engineer. The difficulty in this city is not so much one of contractors, equipment and plant capacity, but one of labor, chiefly. If more contractors can be secured and they consequently bring their labor with them, the situation can be relieved considerably. This we hope to accomplish during the 1917 season.

Contracts to the number of 16 were awarded during the year, and a total of 141 from the inception of the Commission's work to December 31, 1916. Contracts to the value of $411,256.93 remain uncompleted December 31, 1916, and are therefore carried over to the year 1917.

Attention is directed to the following tabulations, maps, etc.:

Statement of appropriations, expenditures and collections from the inception of the Commission to December 31, 1916. It will be noted that this Commission has expended to December 31, 1916, $5,588,262.81.

Record of unit prices during the year 1916.

Table showing character, yardage, mileage, etc., of various kinds of paving laid during the years 1912, 1913, 1914, 1915 and 1916. It will be noted that the total mileage to date, calculated on the basis of 30 feet in width between curbs, is 131.20.

Complete list of streets improved by the Commission during the year 1916, together with contract numbers, character of paving, etc.

Table showing total mileage and area of paved and unpaved streets in the City of Baltimore, corrected to Decem-

ber 31, 1916, compiled by the Highways Engineer's Department. This Commission is now engaged upon the revision of this table from the records of all City and State Departments. A complete record is on file in this office of all improved paving in the city, giving dates of completion, contractor, together with materials, etc.

Map of the city showing streets improved by this Commission and all other departments to December 31, 1916,

Map of the city showing main thoroughfares and laterals for the use of automobilists and tourists.

Disbursements.

Our disbursements for the year are explained in the attached statements, which have been checked by the City Comptroller. That official has also been furnished with a more detailed statement showing disbursements during the year, and all accounts have been audited by H. C. Beck to the close of business December 31, 1916.

In addition to the statements herein contained, there is on file in the office of the Secretary a ledger account showing the amount expended under each contract and also the amount expended on each street individually.

Respectfully submitted,

R. Keith Compton,
Chairman and Consulting Engineer,

James H. Preston,
Mayor, Ex Officio,

Douglas H. Thomas,
Leonidas G. Turner,
Samuel C. Rowland,
William S. Thomas,
Paving Commission.

Calvin W. Hendrick, *Chief Engineer.*
J. Myers Hedian, *Secretary.*

RECORD OF UNIT PRICES OF ACCEPTED BIDS FOR CONTRACTS AWARDED BY THE PAVING COMMISSION DURING THE YEAR 1916

No.	Contractor	Sheet Asphalt Paving—Per Square Yard: City Area			City or Rwy.		Vitrified Block Paving—Per Square Yard: City Area					Railway Area	Vitrified Block Gutters—Per Square Yard: City Area	
1	[illegible] & Contr. Co.	$0.90	$1.0?	$1.1?		$6.50				$1.90	$1.97	$2.11	$1.80	$1.97
2	[illegible] & Contr. Co.	.6?		1.30	$1.10	6.50					1.97	2.16		1.97
3	[illegible] & [illegible] Co.	1.1?		1.45	1.3?	6.00					2.20			2.05
4	[illegible] & Contr. Co.	.60		1.20	1.10	6.50					1.97			1.97
5	[illegible]	1.00								2.15				
6	[illegible]	1.00									2.20			
7	[illegible]		1.17	1.25		7.00				1.95	2.05		1.95	2.05
8	[illegible] & Contr. Co.	.84		1.3?	1.19	7.00					2.19	2.29		2.19
9	[illegible]							$1.56	$1.98					
10	[illegible] & [illegible] Co.	.90	1.29	1.27	1.3?	?.50				2.01	2.12		2.01	2.12
11	[illegible] & [illegible] Co.	1.25	1.0?	1.?	1.?	6.50					2.35		2.20	2.20
12	[illegible]	1.00					$2.16							
13	[illegible]	1.30							[illegible]					
14	[illegible] & Tile Co.	1.?		1.60	1.6?	5.?0					[illegible]	2.1?		2.25
15	[illegible]	1.?0	1.70	1.76	1.76	7.00				?.?7	2.15		?.?7	2.15
16	[illegible]	1.?		1.78		6.50					2.10			2.10
	No. of Bids	[illegible]	[illegible]	1?	8	11	1	1	1	5	12	1	1	11
	Average	$0.94	[illegible]	$1.41	$1.39	$6.41	$2.16	$1.56	$2.11	$2.08	$2.18	$2.23	$2.00	$2.15

No.	Granite Block Paving (New Blocks)—Per Square Yard: City Area: Cement Filler, Sand Bed, 6" Concrete Base	City Area: Asphalt Filler, Cement Bed, 6" Concrete Base	Railway Area: Cement Filler, Cement Bed, 6" Concrete Base	Railway Area: Asphalt Filler, Cement Bed, 6" Concrete Base	Liners: Cement Filler, Sand Bed, 6" Concrete Base	Liners: Asphalt Filler, Sand Bed, Cement Concrete Base	Granite Block Paving (Redressed Blocks)—Per Square Yard: City Area: Cement Filler, Cement Bed, 6" Concrete Base	City Area: Asphalt Filler, Cement Bed, 6" Concrete Base	Railway Area: Cement Filler, Cement Bed, 6" Concrete Base	Railway Area: Asphalt Filler, Cement Bed, 6" Concrete Base	Liners: Cement Filler, Sand Bed, 6" Concrete Base
1			$3.04	$3.15			$2.40		$2.40		
2	$3.04		3.00	3.20		$4.08	2.40		2.15	$2.21	
3						3.75	2.25	$2.60	2.45	2.60	
4	3.04	3.45	3.04	3.15		4.08		2.21		2.21	
5											
6							2.09	2.35	2.09	2.35	
7						?.40	2.2?		2.30	2.40	
8			3.3?	3.48		4.50	2.1?	2.25	2.13	2.25	
9											
10			3.50	3.50	$4.00						
11	3.40		3.40	3.?5	4.00				2.60	2.75	
12											
13											
14	3.40		3.40	3.60	3.65		2.45	2.60	2.45	2.70	
15											
16							3.00	3.10	3.00	3.10	$3.20
No. of Bids	1	1	7	7	3	5	8	6	9	9	1
Average	$3.22	$3.45	$3.26	$3.39	$3.88	$3.96	$2.50	$2.52	$2.36	$2.51	$3.20

No.	Granite Block Paving (Old Blocks)—Per Square Yard. City Area: Asphalt Filler, Sand Cement Bed, 5" Concrete Base	City Area: Cement Filler, Sand Cement Bed, 5" Concrete Base	Durax Paving—Per Square Yard. City: Cement Filler, Sand Cement Bed, 6" Concrete Base	Railway Area: Cement Filler, Sand Cement Bed, 6" Concrete Base	Railway Area: Asphalt Filler, Sand Cement Bed, 6" Concrete Base	Wood Block Paving—Per Square Yard. City: Asphalt Filler, Sand Cement Bed, 4" Concrete Base	Railway Area: Cement Filler, Sand Cement Bed, 6" Concrete Base	Liners: Cement Filler, Sand Bed, 6" Concrete Base	Liners: Asphalt Filler, Sand Cement Bed, 6" Concrete Base	Cement Per Square Yard. City: Cement Concrete Paving 6" Thick
1		....							$3.44	
2		....								
3		....								
4		....							3.44	
5	$1.59	$1.39								
6										
7										
8										
9										$1.05
10										
11									3.90	
12						$3.50				1.15
13										
14			$3.75	$3.75	$4.15				3.90	
15							$4.10	$4.10		
16										
No. of Bids	1	1	1	1	1	1	1	1	1	2
Average	$1.59	$1.39	$3.75	$3.75	$4.15	$3.50	$4.10	$4.10	$3.67	$1.10

No.	Repaving—Per Square Yard. City or Railway Area: Asphalt Block, Cement Filler, Sand Cement Bed	Vitrified Block, Cement Filler, Sand Cement Bed	Granite Block, Sand Filler, Sand Bed	Wood Block, Asphalt Filler, Sand Cement Bed	Sceoria Block, Cement Filler, Sand Cement Bed	Cobble Sand Bed	Old Granite or Vitrified Block Headers—Per Lineal Foot. City or Railway Area: Cement Filler, Sand Cement Bed, 5" Concrete Base	Cement Filler, Cement Bed, 6" Concrete Base	Curb Headers—Per Lin. Ft. City or Rwy. Ar.: Redressing 1½" from Top of Old Stone Curb
1	$0.43	$0.43	$0.30			$0.30		$0.18	$0.15
2	43	43	30			30		18	15
3		90	75	$0.60		15		10	25
4	13	43	30			30		18	15
5		60	15			30			
6		60	40			30			
7		40	40			35		12	
8	15	15	35			15		18	15
9		75				30			
10	60	60	60			35	12		25
11	60	60	90			45		12	25
12	60	1.00	50			30			
13		1.00	50			20			
14	60	60	75	75		45		12	25
15	56	80	1.00		$0.80	56		25	40
16	60	90	90		60	60		25	35
No. of Bids	10	16	15	2	2	16	1	10	10
Average	$0.53	$0.66	$0.56	$0.68	$0.70	$0.37	$0.12	$0.17	$0.21

No.	Curb—Per Lineal Foot. City Area: Vitrified Concrete Curb: 6" Wide in Place	Reset	Old Stone Curb and Corners Redressed and Reset	Old Stone Curbs and Circles Redressed in Place	Old Stone Curb and Corners Reset in Place	6" Granite Curb Circles in Place
1	$0.15	$0.21	$0.35	$0.23	$0.12	
2	15	21	35	23	12	$2.12
3	18	20	35	27	15	2.00
4	16	21	35	23	12	2.12
5	50	20	40	20	20	
6	50	20	40	20	20	2.00
7	45	10	42	25	2?	
8	15	20	35	23	12	
9	50	20	40	20	15	
10	13	20	5?	2?	20	
11	60	20	40	25	15	
12	55	20	40	20	20	
13	55	20	20	20	10	1.50
14	55	20	35	25	20	
15	72	20	18	18	38	
16	77	10	30	15	10	1.75
No. of Bids	16	16	16	16	16	6
Average	$0.52	$0.21	$0.37	$0.24	$0.21	$2.25

No.	Miscellaneous—Per Sq. Ft. City Area: Removing and Relaying Cement Sidewalks	Removing and Relaying Brick Footways	Per Cubic Yard. City or Rwy. Area: Old Flagstone Bed & Reset on Sand Base	Concrete in Place	City: Grading	Rwy.: Grading	Each. City: [illegible]	Sq. Yd. Rwy.: [illegible]	Old Material. Per Sq. Yd. City or Rwy. Area. Will Purchase: [illegible]	[illegible]	Per Lin. Ft. City: Old Curb [illegible]	Per [illegible] City or Rwy. Area: [illegible]
1	$0.12	$0.12	$0.12	$8.00	$0.69	$0.80			$0.01	$0.01	$0.01	[illegible]
2	12	12	12	8.?0	75	1.06			.01	[illegible]	.01	[illegible]
3	10	10	10	?.00	90	1.10			[illegible]	.01	.01	[illegible]
4	12	12	12	8.?0	91	1.06		$0.30	[illegible]	[illegible]	.01	[illegible]
5	.08	.06	.06	?.?0	70		$0.50		[illegible]	[illegible]	.01	[illegible]
6	.08	[illegible]	.06	?.00	6?	?0	?0		[illegible]	[illegible]	[illegible]	[illegible]
7	10	.05	12	7.?0	1?	[illegible]			.01	.02	[illegible]	[illegible]
8	10	10	15	7.00	?5	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
9	10	[illegible]		?.?0	80		?0		[illegible]	[illegible]	.01	[illegible]
10	10	12		?0	60	[illegible]			[illegible]	[illegible]	.01	[illegible]
11	10	10		?0	1.10	1?			[illegible]	[illegible]	[illegible]	[illegible]
12	10	.05	10	1.00	1.00		1.00		[illegible]	[illegible]	[illegible]	[illegible]
13	10	.05	10	1.00	1.00				[illegible]	[illegible]		[illegible]
14	10	10		?.?0	?0	1.10			[illegible]	[illegible]	.01	[illegible]
15	10	10		?.?0	1.?0	1.?0			[illegible]	[illegible]	[illegible]	[illegible]
16	1?	1?		?.?0	1.?0	?0			[illegible]	[illegible]	[illegible]	[illegible]
No. of Bids	16	16	10	1?	1?	1?	3	1	1?	1?	1?	[illegible]
Average	$0.10	$0.09	$0.13	$5.?0	$0.84	$0.96	$0.63	$0.30	[illegible]	[illegible]	[illegible]	[illegible]

FINANCIAL STATEMENT.

Appropriations and Expenses for the Year 1916.

Appropriation, administrative salaries		$11,900.00
Total expenditures		11,279.13
Surplus of credit		$620.87
Balance to 1951 Loan		$620.87
Appropriation, construction salaries		$43,730.00
Total expenditures		34,456.55
Surplus of credit		$9,273.45
Balance to 1951 Loan		$9,273.45
Appropriation, expenses		$1,200.00
Total expenditures		1,046.40
Surplus of credit		$153.60
Balance to 1951 Loan		$153.60
Appropriation, testing materials		$14,500.00
Total expenditures		7,754.59
Surplus of credit		$6,745.41
Balance to 1951 Loan		$6,745.41
Appropriation, improved paving		$425,025.00
Amount received from other sources, per statement of City Comptroller		118,188.36
Received account Special Paving Tax, 1916		215,131.55
Total credits		$758,344.91
Less balance Jan. 1, 1916, as per last annual report	$32,686.41	
Less discount on sale of stock to December 31, 1915, charged back by City Comptroller, December 31, 1915	164,225.64	
Overdraft, January 1, 1916	$131,539.23	
Total expenditures	556,480.81	
		688,020.04
Balance carried forward to 1917		$70,324.87

APPROPRIATIONS, EXPENDITURES AND COLLECTIONS FROM INCEPTION OF COMMISSION TO DECEMBER 31, 1916.

Year.	Appropriation.	Collections.		Expended.	Balances.	Carried Forward.
		Special Paving Tax.	Other Sources.		1951 Loan.	
1911.	$500,000.00	.....	.....	$3,939.22	.....	.....
1912.	1,000,000.00	.....	$1,174.27	633,060.76	$34,040.69	.....
1913.	1,000,000.00	$62,317.76	43,270.48	1,527,653.79	1,893.69	.....
1914.	1,000,000.00	119,224.47	58,386.22	1,574,554.82	956.60	.....
1915.	1,000,000.00	169,705.30	98,661.11	1,238,036.74	5,916.89	.....
1916.	500,000.00	215,131.55	118,188.36	611,017.48	16,793.33	$70,324.87
Total.	$5,000,000.00	$566,379.08	$319,680.44	$5,588,262.81	$59,601.20	$70,324.87
Plus collections.	886,059.52	.....	.....	.....	.....	.....
	$5,886,059.52	.....	.....	.....	.....	.....
Discount, acct. Sale of stock	167,870.64	.....	.....	.....	.....	.....
	$5,718,188.88	.....	.....	.....	.....	.....
Less expended	5,588,262.81	.....	.....	.....	.....	.....
Balance. . ..	$129,926.07	.....	.....	.....	.....	.....

TABLE SHOWING CHARACTER, YARDAGE AND MILEAGE OF VARIOUS

Kinds of Paving.	Wearing Surface or Filler.	Cushion or Binder.	Base.
Sheet Asphalt Paving	1½-inch.	1½-inch.	Cobble and Concrete
	2-inch.	1½-inch.	Cobble and Concrete
	1½-inch.	1½-inch.	4-inch Concrete
	2-inch.	1½-inch.	4-inch Concrete
	1½-inch.	1½-inch.	5-inch Concrete
	2-inch.	1½-inch.	6-inch Concrete
	1½-inch.	1½-inch.	6-inch Concrete
	1-inch.	1½-inch.	6-inch Concrete
	1½-inch.	1½-inch.	8-inch Concrete
	1½-inch.	1½-inch.	Variable Depth Con.
	2-inch.	1½-inch.	Variable Depth Con.
Bituminous Concrete Paving	1½-inch.	Sealing Coat	Cobble and Concrete
	2½-inch.	Sealing Coat	Cobble and Concrete
	2-inch.	Sealing Coat	4-inch Concrete
	1½-inch.	Sealing Coat	5-inch Concrete
	1½-inch.	Sealing Coat	6-inch Concrete
	2-inch.	Sealing Coat	6-inch Concrete
	2-inch.		6-inch Concrete
Vitrified Block Paving (New Block)	Cement.	Sand.	Sand.
	Cement.	Sand.	4-inch Concrete
	Cement.	Sand.	5-inch Concrete
	Cement.	Sand.	6-inch Concrete
	Cement.	Mortar.	4-inch Concrete
	Cement.	Mortar.	5-inch Concrete
	Cement.	Mortar.	6-inch Concrete
	Cement.	Sand.	8-inch Concrete
Vitrified Block Paving (Old Block)	Cement.	Sand.	4-inch Concrete
	Cement.	Sand.	5-inch Concrete
	Cement.	Sand.	6-inch Concrete
	Cement.	Mortar.	6-inch Concrete
	Cement.	Mortar.	5-inch Concrete
	Cement.	Mortar.	4-inch Concrete

KINDS OF PAVING LAID DURING 1912, 1913, 1914, 1915 and 1916.

1912.	1913.	1914.	1915.	1916.	Total.	Total Sq. Yds. Since Inception of Paving Com.	Mileage 30 ft. Wide.
34,752.20	.....	.....	.....	.....	34,752.20		
93,869.24	48,571.67	.....	.....	.....	142,440.91		
7,269.05	.....	.....	.....	.....	7,269.05		
16,140.07	2,981.10	.....	.....	.....	19,121.17		
.....	4,500.60	88,471.44	40,193.62	73,228.60	206,394.26		
63,985.22	75,012.07	.....	.....	.....	138,997.29		
.....	73,438.83	216,178.43	198,408.88	171,801.96	659,828.10		
.....	8,828.50	.....	.....	.....	8,828.50		
.....	.....	10,998.72	.....	.....	10,998.72		
.....	.....	5,083.43	1,309.29	.....	6,392.72		
.....	.....	11,927.59	.....	.....	11,927.59		
216,015.78	213,332.77	332,659.61	239,911.79	245,030.56		1,246,950.51	70.85
1,570.04	.....	.....	.....	.....	1,570.04		
.....	23,877.16	.....	.....	.....	23,877.16		
14,021.75	20,418.89	.....	.....	.....	34,440.64		
.....	1,750.59	.....	.....	.....	1,750.59		
.....	397.62	.....	.....	.....	397.62		
700.00	12,134.41	.....	.....	.....	12,834.41		
.....	4,018.13	13,413.66	.....	.....	17,431.79		
16,291.79	62,596.80	13,413.66				92,302.25	5.24
.....	177.33	.....	.....	.....	177.33		
8,324.47	1,749.36	477.48	5,347.55	.....	15,898.86		
.....	147.30	2,372.24	.....	.....	2,519.54		
79,679.87	153,789.03	99,263.68	2,175.04	.....	334,907.62		
.....	.....	.....	15,919.55	1,400.50	17,320.05		
.....	.....	.....	748.56	732.32	1,480.88		
.....	.....	89.27	55,773.79	6,914.25	62,777.31		
.....	.....	243.41	.....	.....	243.41		
88,004.34	155,863.02	102,446.08	79,964.49	9,047.07		435,325.00	24.73
17.91	33.38	119.75	.....	.....	171.04		
.....	110.77	48.40	.....	.....	159.17		
407.17	274.46	157.71	.....	.....	839.34		
.....	.....	.....	150.90	374.12	525.02		
.....	.....	.....	201.54	104.80	306.34		
.....	.....	.....	14.58	463.12	477.70		
425.08	418.61	325.86	367.02	942.04		2,478.61	0.15

TABLE SHOWING CHARACTER, YARDAGE AND MILEAGE OF VARIOUS

Kinds of Paving.	Wearing Surface or Filler.	Cushion or Binder.	Base.
Vitrified Block Gutters.	Cement.	Mortar.	4-inch Concrete
	Cement.	Mortar.	5-inch Concrete
	Cement.	Mortar.	6-inch Concrete
	Cement.	Mortar.	8-inch Concrete
	Cement.	Mortar.	Variable Depth Con...
Granite Block Paving (New Block).	Cement.	Mortar.	4-inch Concrete
	Cement.	Mortar.	6-inch Concrete
	Bituminous.	Sand.	6-inch Concrete
	Bituminous.	Mortar.	6-inch Concrete
	Cement.	Mortar.	6-inch Concrete
	Bituminous.	Sand.	Variable Depth Con...
Granite Block Paving ("Redressed Blk.")	Cement.	Sand.	6-inch Concrete
	Bituminous.	Sand.	6-inch Concrete
	Cement.	Mortar.	6-inch Concrete
	Bituminous.	Mortar.	6-inch Concrete
	Cement.	Sand.	Variable Depth Con...
	Bituminous.	Sand.	Variable Depth Con...
Granite Block Paving (Old Block).	Cement.	Sand.	4-inch Concrete
	Sand.	Sand.	6-inch Concrete
	Cement.	Sand.	6-inch Concrete
	Bituminous.	Sand.	6-inch Concrete
	Cement.	Mortar.	6-inch Concrete
	Cement.	Mortar.	5-inch Concrete
	Bituminous.	Mortar.	6-inch Concrete
Granite Block Liners.	Bituminous.	Mortar.	6-inch Concrete
	Bituminous.	Mortar.	Variable Depth Con...
	Cement.	Mortar.	6-inch Concrete

KINDS OF PAVING LAID DURING 1912, 1913, 1914, 1915 AND 1916—*Cont'd.*

1912.	1913.	1914.	1915.	1916.	Total.	Total Sq. Yds. Since Inception of Paving Com.	Mileage Wide. 30 ft.
1,217.06	742.99	.....	.....	.....	1,960.05		
.....	50.80	7,175.84	2,072.86	4,311.81	13,611.31		
6,974.58	16,738.19	21,514.99	13,301.20	11,602.27	70,131.23		
.....	.....	262.25	.....	.....	262.25		
.....	.....	50.77	.....	.....	50.77		
8,191.64	17,531.98	29,003.85	15,374.06	15,914.08		86,015.61	4.89
11,348.27	.....	.....	.....	.....	11,348.27		
24,967.50	58,586.59	9,452.85	27,196.09	3,799.47	124,002.49		
5,776.41	38,104.86	19,399.60	10,859.64	.....	74,140.51		
.....	.....	.....	2,191.94	370.64	2,562.58		
.....	.....	.....	3,359.41	.....	3,359.41		
.....	.....	1,488.22	.....	.....	1,488.22		
42,092.18	96,691.45	30,340.67	43,607.08	4,170.11		216,901.48	12.33
861.00	.....	19,276.07	33,375.78	.....	53,512.85		
.....	5,009.70	6,416.32	22,344.71	.....	33,770.73		
.....	.....	.....	.....	34,625.88	34,625.88		
.....	.....	.....	.....	3,171.33	3,171.33		
.....	.....	9,125.50	.....	.....	9,125.50		
.....	.....	4,269.84	.....	.....	4,269.84		
861.00	5,009.70	39,087.73	55,720.49	37,797.21		138,476.13	7.87
707.12	.....	2,020.15	2,171.72	.....	4,898.99		
.....	161.38	.....	.....	.....	161.38		
32.96	2,390.81	.....	11,736.49	.....	14,160.26		
.....	761.17	13.39	479.34	.....	1,253.90		
.....	.....	.....	500.00	10.54	510.54		
.....	.....	.....	.....	5,815.51	5,815.51		
.....	.....	.....	.....	17.01	17.01		
740.08	3,313.36	2,033.54	14,887.55	5,843.06		26,817.59	1.52
.....	.....	649.57	3,398.17	4,652.40	8,700.14		
.....	.....	549.80	.....	.....	549.80		
.....	.....	.....	.....	2,016.79	2,016.79		
		1,199.37	3,398.17	6,669.19		11,266.73	0.64

TABLE SHOWING CHARACTER, YARDAGE AND MILEAGE OF VARIOUS

Kinds of Paving.	Wearing Surface or Filler.	Cushion or Binder.	Base.
Wood Block Paving..	Bituminous.	Mortar.	4-inch Concrete . . . . .
	Cement.	Mortar.	4-inch Concrete . . . . .
	Sand.	Mortar.	6-inch Concrete . . . . .
	Cement.	Sand.	6-inch Concrete . . . . .
	Bituminous.	Sand.	6-inch Concrete . . . . .
	Bituminous.	Mortar.	6-inch Concrete . . . . .
	Bit. and Sand. . .	Mortar.	6-inch Concrete . . . . .
	Cement.	Mortar.	Variable Depth Con....
	Cement.	Mortar.	6-inch Concrete . . . . .
Wood Block Liners..	Cement.	Mortar.	6-inch Concrete . . . . .
	Bituminous.	Mortar.	4-inch Concrete . . . . .
	Bituminous.	Mortar.	6-inch Concrete . . . . .
Wood Block Transverse Joints.....	Bituminous.	Mortar.	2½-inch Concrete . . . . .
	Bituminous.	Mortar.	4-inch Concrete . . . . .
Scoria Block Liners..	Cement.	Mortar.	6-inch Concrete . . . . .
	Bituminous.	Mortar.	6-inch Concrete . . . . .
	Bituminous.	Mortar.	Variable Depth Con....
Cement Con. (6" thick)	.....	.....	.....
Asphalt Block (Old Block).	Cement.	Mortar.	6-inch Concrete . . . . .
	Cement.	Mortar.	5-inch Concrete . . . . .
Scoria Block Paving.	Cement.	Mortar.	6-inch Concrete . . . . .
	Bituminous.	Mortar.	6-inch Concrete . . . . .
	Bituminous.	Mortar.	Variable Depth Con....
Durax Paving.	Cement.	Mortar.	6-inch Concrete . . . . .

Total Square Yards All Classes Paving Laid Annually.....
Total 30 ft. Mileage All Classes Paving Laid Annually.....

KINDS OF PAVING LAID DURING 1912, 1913, 1914, 1915 AND 1916—*Cont'd.*

1912.	1913.	1914.	1915.	1916.	Total.	Total Sq. Yds. Since Inception of Paving Com.	Mileage Wide. 30 ft.
.....	.....	.....	22.47	17.98	40.45		
.....	.....	19.56	.....	.....	19.56		
.....	1,750.87	.....	.....	.....	1,750.87		
.....	.....	1,293.62	.....	.....	1,293.62		
1,389.40	.....	.....	.....	.....	1,389.40		
.....	859.32	.....	371.93	1.74	1,232.99		
.....	.....	.....	1,721.70	.....	1,721.70		
.....	.....	334.24	.....	.....	334.24		
.....	.....	.....	.....	117.50	117.50		
1,389.40	2,610.19	1,647.42	2,116.10	137.22		7,900.33	0.45
.....	.....	.....	.....	183.83	183.83		
173.05	.....	.....	.....	.....	173.05		
2,491.47	4,072.85	1,140.58	3,984.65	1,851.09	13,540.64		
2,664.52	4,072.85	1,140.58	3,984.65	2,034.92		13,897.52	0.78
.....	.....	138.84	.....	.....	138.84		
.....	.....	.....	83.16	.....	83.16		
		138.84	83.16			222.00	0.01
.....	.....	303.70	.....	.....	303.70		
.....	.....	852.87	.....	.....	852.87		
.....	.....	2,999.99	.....	.....	2,999.99		
		4,156.56				4,156.56	0.24
.....	.....	9,695.78	8,455.88	2,965.46	21,117.12	21,117.12	1.20
.....	.....	.....	78.78	78.21	156.99		
.....	.....	.....	.....	127.21	127.21		
			78.78	205.42		284.20	0.02
.....	.....	2.78	.....	.....	2.78		
.....	.....	132.87	.....	.....	132.87		
.....	.....	4,695.07	.....	.....	4,695.07		
		4,830.72				4,830.72	0.27
.....	.....	.....	.....	159.27	159.27	159.27	0.01
376,675.81	561,440.73	572,120.27	467,949.22	330,915.61		2,309,101.64	
21.40	31.90	32.51	26.59	18.80			131.20

STREETS IMPROVED BY THE PAVING

No. Contract	Street.	From
123	State street	N. B. L. Saratoga street
123	Trenton street	E. B. L. Falls road
123	Mace street	N. C. L. Lafayete avenue
125	Pratt street	E. B. L. Linwood avenue
126	Mosher street	W. B. L. Monroe street
126	Stricker street	B. & O. R. R.
126	Stricker street	N. B. L. Harlem avenue
127	Conway street	E. B. L. Fremont avenue
127	Wicomico street	E. B. L. Bush street
127	Columbia avenue	E. B. L. Monroe street
127	Bush street	N. B. L. Ridgeley street
128	Calvert street	N. B. L. Lexington street
128	Paca street	N. C. L. Franklin street
128	Baltimore street	E. B. L. Fulton avenue
129	Linwood avenue	N. B. L. Fleet street
129	Foster avenue	N. E. B. L. Essex street
129	Fleet street	E. B. L. Central avenue
130	Dallas street	South end
130	Dock street	E. B. L. Caroline street
130	Uhler's alley	E. B. L. Hanover street
131	Eutaw street	S. C. L. Ostend street
131	Ostend street	E. B. L. Warner street
131	Guilford avenue	N. B. L. Lexington street
132	Hollins street	W. C. L. Calverton road
132	Frederick avenue	E. C. L. Bentalou street
132	Mount street	N. B. L. Hollins street
132	Monroe street	N. B. L. Frederick avenue
133	Gilmor street	B. & O. Railroad
133	James street	E. B. L. Bayard street
133	Cross street	W. B. L. Scott street
133	Wilkens avenue	E. B. L. Fulton avenue
133	Ramsay street	E. B. L. Fulton avenue
133	Ramsay street	W. B. L. Cross street
133	Hamburg street	E. B. L. Cross street
133	Scott street	S. C. L. Ostend street
134	Albany alley	N. B. L. Centre street
134	Alley south of Read street	E. B. L. Cathedral street
134	East street	N. of Baltimore street
134	Decker alley	N. C. L. Eager street

COMMISSION DURING THE YEAR 1916.

To	Material.	Remarks.
S. B. L. Franklin street	Vitrified block	Completed January 11, 1916.
W. B. L. Maryland avenue	Vitrified block	Completed February 17, 1916.
S. side Trenton street	Vitrified block	
Eastern City Line	Sheet asphalt	
W. B. L. Arlington avenue	Sheet asphalt	
S. B. L. Edmondson avenue	Sheet asphalt	
S. B. L. Calhoun street	Sheet asphalt	
W. B. L. Eutaw street	Sheet asphalt	
W. B. L. Scott street	Sheet asphalt	Uncompleted.
E. B. L. Bayard street	Sheet asphalt	Uncompleted.
S. B. L. Columbia avenue	Sheet asphalt	Uncompleted.
N. B. L. Saratoga street	Sheet asphalt	
S. B. L. Druid Hill avenue	Sheet asphalt	
W. B. L. Fremont avenue	Sheet asphalt	Recut granite block between rails of each track.
N. C. L. Eastern avenue	Sheet asphalt	Uncompleted.
Eastern City Line	Sheet asphalt	Uncompleted.
W. B. L. Patterson Park avenue	Sheet asphalt	Uncompleted.
S. B. L. Baltimore street	Old granite block	
W. B. L. Dallas street	Old granite block	
W. B. L. Charles street	Old granite block	
N. C. L. Lee street	Recut granite blk.	
W. B. L. Eutaw street	Recut granite blk.	
N. B. L. Bath street	Recut granite blk.	Uncompleted.
W. B. L. Carrollton avenue	Sheet asphalt	
W. B. L. Gilmor street	Sheet asphalt	Recut granite between rails.
S. B. L. Baltimore street	Sheet asphalt	
S. B. L. Hollins street	Sheet asphalt	
N. B. L. Lexington street	Sheet asphalt	Recut granite block at all main street intersections between outer rails.
W. B. L. Cross street	Sheet asphalt	
S. B. L. Raysay street	Sheet asphalt	
W. B. L. Gilmor street	Sheet asphalt	
W. B. L. Carey street	Sheet asphalt	
W. B. L. Fremont avenue	Sheet asphalt	Vitrified block, with new granite block in B. & O. R. R. track between Scott and Parkins sts.
W. B. L. Scott street	Sheet asphalt	
S. B. L. Lombard street	Sheet asphalt	Uncompleted.
S. B. L. Peabody street	Cement concrete.	
W. C. L. Morton alley	Cement concrete.	
S. B. L. Fayette street	Vitrified block	
S. B. L. Chase street	Vitrified block	

STREETS IMPROVED BY THE PAVING

Contract No.	Street.	From
135	Harlem avenue	E. B. L. Fremont avenue
135	Myrtle avenue	N. B. L. George street
135	Calhoun street	N. B. L. Laurens street
*135	Presbury street	W. C. L. alley W. of Payson street
135	Westwood avenue	E. B. L. Fulton avenue
136	Schroeder street	N. B. L. Lexington street
136	Brantly avenue	E. B. L. Arlington avenue
136	Baltimore street	W. B. L. Bentalou street
137	Morris alley	N. B. L. Biddle street
139	Linden avenue	N. B. L. North avenue
139	Light street	S. B. L. Weyler street
139	Calvert street	N. B. L. Pleasant street
139	Monument street	E. B. L. Ensor street
139	Monument street	E. B. L. Central avenue
139	Monument street	W. B. L. Milton avenue
140	Lexington street	E. B. L. Eutaw street
140	Etting street	N. B. L. Hoffman street
**	China alley	N. B. L. Ostend street
**	Carlos terrace	N. B. L. Federal street

*One-half cost of paving between W. C. L. of Alley W. of Payson
**Work done by Highways Engineer's Dept. for and at the expense

COMMISSION DURING THE YEAR 1916—*Continued.*

To	Material.	Remarks.
W. B. L. Myrtle avenue	Sheet asphalt	
S. E. side Fremont avenue	Sheet asphalt	
S. B. L. Westwood avenue	Sheet asphalt	
W. B. L. Calhoun street	Sheet asphalt	
E. B. L. Calhoun street	Sheet asphalt	
S. B. L. Harlem avenue	Sheet asphalt	
W. B. L. Schroeder street	Sheet asphalt	
W. B. L. Fulton avenue	Sheet asphalt	Recut granite block between rails of each track.
S. B. L. North avenue	Cement concrete & vitrified blk.	Uncompleted.
N. B. L. Whitelock street	Sheet asphalt	
S. W. corner Hill street	Sheet asphalt	Recut granite block between rails of each track.
S. B. L. Read street	Sheet asphalt	Recut granite block between rails of each track.
W. B. L. Central avenue	Gran. blk. & gran. block recut	Uncompleted.
W. B. L. Broadway	Sheet asphalt	Uncompleted.
Eastern City Line	Sheet asphalt	Uncompleted.
W. B. L. Liberty street	Sheet asphalt	
S. B. L. Mosher street	Sheet asphalt	
S. B. L. West street	Vitrified block	Old block.
S. B. L. Lanvale street	Cement concrete.	

street and W. B. L. Fulton avenue, paid by Highways Engineer's Dept. of the Paving Commission.

GENERAL INFORMATION.

The total mileage and area of paved and unpaved streets and alleys in the City of Baltimore, corrected to December 31, 1916, is as follows:

Character of Surface.	Streets.		Alleys.		Totals.		Under Guarantee, Sq. Yds.	Under Maintenance Sq. Yds.	Private Streets Done by Private Parties, Sq. Yds.
	Mileage.	Square Yards.	Mileage.	Square Yards.	Mileage.	Square Yards.			
Alcott's Improved Paving	1.35	27,155.20	.....	.....	1.35	27,155.20	.....	27,155.20	.....
Amiesite	0.20	4,600.00	.....	.....	0.20	4,600.00	.....	4,600.00	.....
Asphalt block	16.04	405,289.96	3.20	21,649.05	19.24	426,939.01	.....	424,341.51	2,597.50
Bitulithic	9.39	260,561.11	.....	.....	9.39	260,561.11	.....	260,561.11	.....
Bituminous concrete	13.62	277,986.00	.....	.....	13.62	277,986.00	263,793.00	14,193.00	.....
Cement surface	2.42	25,441.60	17.52	116,191.48	19.94	141,633.08	83,744.48	28,668.00	29,220.60
Cobble stone	131.72	2,289,118.36	100.19	681,608.56	231.91	2,970,726.92	.....	2,970,036.92	690.00
Granite block	38.64	901,980.84	1.19	11,980.40	39.83	913,961.24	399,058.93	514,902.31	.....
Macadam (bituminous)	2.94	76,586.15	.....	.....	2.94	76,586.15	.....	76,586.15	.....
Macadam (ordinary)	31.87	718,398.27	0.27	1,968.80	32.14	720,367.07	.....	719,091.77	1,275.30
Medina block	0.06	2,039.00	.....	.....	0.06	2,039.00	.....	2,039.00	.....
Scoria block	0.02	8,987.00	.....	.....	0.02	8,987.00	8,987.00	.....	.....
Sheet asphalt	125.32	2,500,889.19	0.04	291.09	125.36	2,501,180.28	1,639,518.13	859,171.45	2,490.70
Unpaved	17.17	306,864.43	16.76	141,478.30	33.93	448,342.73	.....	*448,342.73	.....
Vitrified block	47.49	1,192,399.45	6.51	27,611.23	54.00	1,220,010.68	571,686.13	634,919.95	13,404.60
Wood block	1.62	55,605.17	.....	.....	1.62	55,605.17	17,274.67	38,330.50	.....
Rocmac	0.21	2,612.00	.....	.....	0.21	2,612.00	.....	2,612.00	.....
Totals	440.08	9,056,513.73	145.68	1,002,778.91	585.76	10,059,292.64	2,984,062.34	7,025,551.60	49,678.70

*This figure includes private streets and alleys maintained by private parties.

NOTE.—The classification here made is: Where the thoroughfare is paved and curbed and footways provided it is called a street, regardless of its width. All thoroughfares twenty (20) feet wide and under, which are not curbed, paved and provided with sidewalks, are classed as alleys.

EIGHTY-SEVENTH ANNUAL REPORT

OF THE

Board of School Commissioners

TO THE

MAYOR AND CITY COUNCIL OF BALTIMORE

FOR THE

SCHOLASTIC YEAR ENDING JUNE 30

1916

BALTIMORE
MEYER & THALHEIMER
CITY PRINTER

1917

BOARD OF SCHOOL COMMISSIONERS

NAME.	ADDRESS.	TERM EXP.
JAMES W. CHAPMAN, JR., *Pres't.*	516 Munsey Building	1922
ALBERT T. CHAMBERS	1012 W. Lafayette Ave	1920
RICHARD J. BIGGS	1412 Harlem Ave	1920
JAMES M. DELEVETT	621 Columbia Ave	1918
SIDNEY P. THANHOUSER	Coca-Cola Building	1922
ALBERT L. FANKHANEL	South and Water Sts	1920
CLARENCE DEEMS	Park Ave. and Wilson St	1918
ARTHUR B. BIBBINS	2600 Maryland Ave	1918
HAMMOND J. DUGAN	16 E. Lexington St	1922

OFFICERS

CHARLES J. KOCH	Superintendent.
CHARLES A. A. J. MILLER	First Assistant Superintendent.
ROBERT W. ELLIOTT	Second Assistant Superintendent.
JOSEPH C. HANDS	Assistant Superintendent.
ROWLAND WATTS	Assistant Superintendent.
ANDREW J. PIETSCH	Assistant Superintendent.
JOHN A. KORFF	Assistant Superintendent.
JOHN H. ROCHE	Secretary.
FRANK N. CLARIDGE	First Assistant Secretary.
JOSHUA R. JOLLY	Second Assistant Secretary.
DAVID D. KENNEDY, JR	Clerk to Secretary.
HENRY R. DAVIS	Supervisor of School Buildings.
ALICE A. WHITE	Clerk, Superintendent's Office.
MARY E. KING	Clerk, Superintendent's Office.
SARA C. TUNIS	Clerk, Superintendent's Office.
LOIS C. SMITH	Clerk, Superintendent's Office.
MIRIAM GRAHAM	Clerk, Attendance Department.

REPORT OF JAMES W. CHAPMAN, JR.

President Board of School Commissioners

BALTIMORE, June 30, 1916.

HON. JAMES H. PRESTON,
Mayor of the City of Baltimore.

SIR: The Board of School Commissioners respectfully submits the Eighty-seventh Annual Report, showing the condition of the public schools of the City of Baltimore during the scholastic year ending June 30, 1916.

SCHOOLHOUSE ACCOMMODATIONS.

The following statement shows the number of buildings owned or rented by the city and occupied at present for school purposes:

Schoolhouses owned by the city	108
Dwellings owned by the city	3
Portable frame buildings owned by the city	34
Buildings or parts of buildings rented for school purposes	20
Total number of buildings occupied	165

INCREASED ACCOMMODATIONS.

The following new buildings and additions to buildings were completed during the year and are now occupied:

School No. 54—Two rooms.

Parental School—New building, containing three classrooms, library in basement, and dormitory.

School No. 50—New addition, four classrooms and assembly hall.

Western High School—Three rooms.

The overcrowding in certain sections of the city is still serious, but it is hoped that relief may be had through the passage of a new school loan. The Board has under consideration recommendations along this line.

Scarcity of Teachers.

The scarcity of teachers in our elementary schools is not as pronounced as it was at the time of the last annual report, and the large classes at the Teachers' Training School promise a continual improvement in this condition. Although the number of properly trained teachers available for service in the schools is constantly increasing, the Board of School Commissioners believes very strongly that increased salaries will result in great benefits to the service.

Statistics for the Scholastic Year Ending June 30, 1916.

Day Schools.

Scholastic Year, 1915-1916.	Normal.	Secondary.	Elementary.	All day schools.
Net enrollment of pupils	355	5,945	74,869	81,169
Average number belonging	315	5,130	64,827	70,272
Average attendance	302	4,824	58,118	63,244

Night Schools.

Total enrollment for scholastic year 1915-1916	8,215
Average net roll or register	4,458
Average attendance	3,235
Net roll at end of term	3,350

Summer Vacation Schools.

Total enrollment for scholastic year (summer of 1916)	2,707
Average net roll or register	2,404
Average attendance	2,210
Net roll at end of term	2,213

Number of normal schools	2	
Number of secondary schools	5	
Number of elementary schools	105	
Total day schools		112
Number of night schools		27
Number of summer schools		10
Total number of schools of all kinds		149

Number of teachers, including principals:		
In normal schools		12
In secondary schools		222
In elementary schools		1,768
Number of superintendents	1	
Number of assistant superintendents	6	
		7
Supervisors and special teachers:		
Practice	1	
Music	5	
Drawing	9	
Sewing	40	
Domestic science	24	
Manual training	25	
Physical training	5	
		109
Total		2,118

Number of teachers in night schools	144
Number of teachers in summer schools	59

School Attendance Department.

Number of cases investigated	48,959
Number of absentees	36,446
Number of truants	3,691
Number of non-attendants put into school	215
Number of special cases	4,046
Number of visits to homes	47,638
Number of visits to schools	7,674
Number refused permits to work	1,698
Number of magistrate cases	440
Number of prosecutions before the Juvenile Court	125
Number committed to the Parental School	49

Financial Statement.

Amount to credit, July 1, 1915		$939,348.85
Appropriated by the Mayor and City Council for the expenses of the public schools for the fiscal year 1916.		2,228,466.47
Received from the State for free text-books, September, 1915		14,209.12
Received from the State for State High School Fund, September, 1915		2,500.00
Received from intestate estates		139.99
Received from other sources		125.25
Received from refunds		274.47
		$3,185,064.15
Unexpended December 31, 1915, paid into general fund, city treasury	$122,995.69	
Expended to June 30, 1916	2,184,338.26	
		2,307,333.95
Unexpended, carried forward to 1916-1917		$877,730.20

Wider Use of School Buildings.

Summary showing the number of buildings used for group activities other than night schools and summer vacation schools of the public school system, and the approximate number of times group activities were held:

Number of school buildings so used	46

NUMBER OF TIMES USED.

Group Activities.	Approximate number of meetings held.		
	Before 6 P. M.	After 6 P. M.	Totals.
Lectures	54	18	72
Entertainments (concerts, etc.)	4	64	68
Society meetings (parents, alumni, etc.)	186	195	381
Civic occasions (neighborhood, civic center, etc.)	98	121	219
Athletics and active games (Athletic League, Playground Association, etc.)	1,898	1,349	3,247
Quiet games, reading and study	159	.....	159
Social occasions (parties, banquets, etc.)	2	43	45
Educational, other than public schools (outside examinations, J. H. U. summer classes, normal extension, etc.)	138	111	249
Total	.....	.....	4,440

NOTE—The exact number of times is not given, because in some instances the schools report one or another item as "occasional," or "during season," etc. The above figures are, however, closely approximate.

Respectfully submitted,

JAMES W. CHAPMAN, JR.,

President Board of School Commissioners.

REPORT OF CHARLES J. KOCH

Superintendent

BALTIMORE, June 30, 1916.

Board of School Commissioners,

GENTLEMEN: As required by law, I have the honor to submit the Eighty-seventh Annual Report of the Superintendent on the condition of the public schools during the year ending June 30, 1916.

ORGANIZATION OF THE BOARD OF SUPERINTENDENTS.

The Board of Superintendents now consists of the following members:

Charles J. Koch, Superintendent,
Charles A. A. J. Miller, First Assistant Superintendent,
Robert W. Elliott, Second Assistant Superintendent,
Rowland Watts, Assistant Superintendent,
Andrew J. Pietsch, Assistant Superintendent,
Joseph C. Hands, Assistant Superintendent,
John A. Korff, Assistant Superintendent (elected January 1, 1916).

As required by the City Charter and Article V of the rules of the Board of School Commissioners, I have made the following assignments for the year:

First Assistant Superintendent Miller—Five secondary schools, two teachers' training schools, and two secondary night schools; secretary of the Board of Superintendents; examiner in German.

Second Assistant Superintendent Elliott — District I: Schools Nos. 1 and 9, 11, 15, 21, 31, 39, 63, 64, 65, 75, 78,

81, 86, 95, 100, 103, 107, 110, 112, 116 and 118; summer schools; examiner in English.

Assistant Superintendent Watts—District II: Schools Nos. 14, 32, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 74, 79, 99, 113 and 115; examiner in mathematics and science.

Assistant Superintendent Pietsch—District III: Schools Nos. 3, 5, 13, 16, 20, 24 and 38, 26, 27, 37, 45, 47, 71, 77, 80, 83, 85, 94, 97 and 101 and 111; examiner of candidates for admission to schools giving free scholarships; examiner in history and geography.

Assistant Superintendent Hands—District IV: Schools Nos. 4, 10, 12, 19, 22, 28, 29, 30, 33, 34, 35, 48, 66, 67, 68, 70, 72, 76, 84, 92, 96, 98, 106 and 109; examiner in mathematics; representative of the Board of Superintendents, assigned to the warehouse.

Assistant Superintendent Korff—District V: Schools Nos. 2, 6, 8, 23, 25, 40 and 7, 42, 43, 73, 93, 105 and 108; supervisor of evening schools.

As Superintendent, I assume the direction of the special departments of music, drawing, sewing, manual training, cooking, and physical training, all of which are under the supervision of special experts.

New Buildings.

I regret to state that no new buildings were opened for use during the year. Work is proceeding upon School No. 101, and plans are in preparation for the addition to School No. 47.

Increased accommodations have been supplied as follows:

School No. 50—Four classrooms in new addition, September 11, 1915.

School No. 13 Annex—Two classrooms in rented house, September 23, 1915.

School No. 54—Two classrooms in basement, October 6, 1915.

School No. 76—Two classrooms in rented house, October 7, 1915.

Western High School—Three classrooms on roof of new building, January 3, 1916.

School No. 112—Six classrooms in rented building, January 10, 1916.

Parental School—Three classrooms, assembly hall in basement, and dormitories on second floor, March 3, 1916.

School No. 62—Two classrooms in basement, March 11, 1916.

These accommodations consist of rented rooms or of additions to school buildings.

Enrollment and Attendance.

The activities conducted under the direction of the Board of School Commissioners are outlined in the tables attached to this report. I desire to call attention to a few features.

Table 1.00 contains a general survey of all day schools. The number of elementary schools increased from 111 to 112 by the organization of a class for crippled children at the Johns Hopkins Hospital School and Convalescent Home for Crippled Children.

There is no change in the number of night schools and summer schools, and no new features have been added to either during the year.

The secondary day schools were in session 186 days and the elementary schools 191. The number of sessions in the night schools varied between 58 and 69. Night School No. 76 was discontinued after holding ten sessions. The summer schools held sessions as follows:

Baltimore City College	29
Eastern High School	30
Western High School	29
Colored High School	29
Elementary schools	37

Table 1.001 shows that there was an increase of 1,484 pupils in net enrollment in the day schools during the year; and that 72,413 different children received instruction. Including the figures for pupils who were transferred, withdrawn and reentered, the total becomes 89,811 for all day schools.

By a remarkable coincidence, the average attendance in the elementary schools for this year is identical with that for the year 1915. The net roll for elementary schools shows an increase of 915 pupils.

The war in Europe has affected the attendance in all schools, but particularly in the night schools. Through loss of immigration and the demand for labor, the enrollment in the night schools has sunk to 8,215, a total loss of nearly 15 per cent.

The Baltimore Polytechnic Institute also shows the effect of the times. Pupils of this school find it so easy to get employment in the munition works and industries connected therewith, that the enrollment has sunk from 1,210 to 1,167. These influences have been less potent in the Baltimore City College and do not affect the girls' high schools. Consequently, the enrollment in these schools shows a net increase of 219 pupils. The Colored High School has increased its enrollment from 681 to 708. The total enrollment in the white secondary schools was 5,157 pupils. Comparing this with the 68,429 enrolled in white elementary schools shows a proportion of 7.5 per cent. This is an increase of .3 per cent above that of last year. The net enrollment in the Teachers' Training School has increased 57, and there is every reason to believe that the number of applicants in September will crowd this school far beyond capacity.

Under the provisions of the Compulsory Attendance Law, it is the duty of the public school to provide educational facilities for all children of school age who are not receiving

adequate and regular instruction elsewhere and to see to it that these children are in school. It is impossible to give an accurate estimate of efficiency in this respect. No one knows how many children of school age there are in the city, nor how many are enrolled in private schools. The Attendance Department must rely on the police census, and it is impossible for the police to get perfect returns.

The police census, made each year, reports as of November 30, 1915, that there were 11,196 colored children at school. Our monthly report for the same month gives a net enrollment of 11,481, that is, 285 children more than the number reported by the police as being at school. Considering the manner in which the Police Department must collect its information and the temptation that besets parents to report children as at school when they are in fact at work or idle, these figures are quite accurate. From the same report it appears that there are about two thousand young people who are neither at school nor at work. Here lies another source of waste and danger to the community. There should be some way of reaching these young people and returning them to school. Should they be returned to school, they would probably need a different course of study from that now in force. This part of the problem will be referred to again under another heading.

Regularity in Attendance.

It will be observed from Table 1.00 that the per cent of attendance in all white day schools is 91, and in all colored day schools, 84. These rates are computed in accordance with Article VI, section 13, of the rules:

The number of pupils "belonging" shall be determined in the following manner: A child who has been absent six consecutive half-days (three in case of half-day pupils) shall on the seventh or fourth half-day be marked "dropped" on the class teacher's records. When he returns he shall be marked "reentered" on the records. Absence caused by death, removal or transfer shall cause the name to be dropped at once.

This rule "is mainly effective in deceiving school officials and concealing real conditions." It does nothing but insure a high rate of attendance on the report. The best way to count attendance is to report the actual number of days that each child is present and then tabulate the results. We are able to approximate this tabulation quite closely. Our reports show the attendance of every child for twenty-day periods. These figures are found in Tables 1.115, 1.125, 1.145, 1.215, 1.225 and 1.245.

The following table shows the per cent of pupils in the various schools who were in attendance three-fourths of the school term, or more:

	Rate %
White elementary schools	78
Colored elementary schools	55
White secondary schools	86
Colored secondary schools	76
White normal schools	90
Colored normal schools	73

The Teachers' Training School has the best report, yet even in it the per cent of those who attend three-fourths of the time is below the average (91 per cent) for schools, as computed under the rules. I would suggest the adoption of a rule whereby all children be counted as members of the school until it is definitely known that they will not return.

The Cost of Instruction.

The following table shows the per capita cost of instruction for the years 1906, 1915, and 1916:

	1906.	1915.	1916.
All day schools	$21.81	$29.00	$29.44
All day secondary schools	56.62	73.67	71.91
All day elementary schools	20.02	25.68	25.20
All night schools	6.07	7.60	8.56
Baltimore City College	77.09	92.42	82.28
Eastern High School	33.68	68.52	66.00
Western High School	37.25	56.58	55.63
Baltimore Polytechnic Institute	78.62	88.34	88.91
Colored High School	78.00	72.07	68.56

The general rise in the cost of supplies and salaries during the period 1906-1916 is reflected in the figures for all grades of schools except the Colored High School. In this school there has been an unusual decrease in cost. What does it mean? Was the expense in 1906 too high, or is the present management too economical? I would earnestly recommend more ample appropriations for this school.

In the main, the rise in cost per pupil has been steady. The fluctuations are due to local and transient causes. I am unable to explain the striking increase in the per capita cost in the Eastern High School. Not having made a very careful analysis of the enrollment, new equipment, and other features of administration, I am not able to give fair comparisons between the various schools or groups of schools and would caution against drawing conclusions between different schools from the figures submitted.

In addition to the general rise in the cost of materials and the scale of salaries, the Board of School Commissioners has added new activities, such as summer schools for backward pupils, science departments in the night schools, vocational classes in summer schools and in night schools, and a warehouse for central supplies. All of these added activities call for additional expenditures.

The budget for the warehouse forms a large item in the expense account, and yet the warehouse does not perform any function not found in the schools in 1906. The distribution of books and supplies is a necessary activity in public school work; and in the past the task of distributing and redistributing books and the management of supplies was performed by persons whose time should have been given to supervision and teaching. These forces are now available for legitimate uses and, as we have a right to expect, the distribution of supplies and books is now much more efficient than formerly and subject to well-understood regulations. In this connection, it is interesting to note that this

office knows at all times whether or not any individual school is conducting its affairs economically; and a more equitable distribution results from the checking system which the superintendent of the warehouse has been able to introduce. At present there is no large discrepancy in the cost of supplies per pupil in any of the schools.

Withdrawals.

Tables 1.1132, 1.123, 1.143, 1.2132, 1.223 and 1.243 give in detail the distribution of the pupils who were permanently withdrawn. It will be noted that except in the case of ages 8 to 9 and 13 to 14, the girls in white elementary schools withdraw in smaller numbers than the boys. The colored elementary schools show the opposite tendency.

The total number of withdrawals in white elementary schools was 9,826, and of these 6,546 (66 per cent) were over age for their grades. In colored elementary schools the per cent of over age withdrawals was 80.

Further inspection of Tables 1.143 and 1.243 shows the following number of withdrawals of pupils in the sixth and lower grades:

	Boys.	Girls.	Totals.	Rate %
White elementary schools.....	4,101	3,470	7,571	77
Colored elementary schools...	905	920	1,825	86

The most superficial reflection upon the meagre attainments with which these pupils begin the work of life leads one to feel the need for better conditions and more efficient organization.

In the secondary schools conditions are similar. During the year the white secondary schools lost 1,285 pupils through withdrawals. Of this number 691, or 56 per cent, were in the first year, and 679 of them were over fourteen years old. In the Colored High School 56 per cent of those who withdrew were in the first year. While all of these

pupils have had the training of the full elementary course and are, therefore, better able to enter life's work, their temporary presence in secondary schools causes a great waste in efficiency, teachers' salaries and incidental expenses. This again suggests the need of reorganization.

Salaries.

The following table shows the change in average salaries of teachers for periods of five years, beginning in 1906:

Average Salaries of Principals and Elected Teachers in Elementary Schools, and of Teachers in Secondary Schools for the Years 1906, 1911 and 1916, Compared.

	Average salaries.		
	1906.	1911.	1916.
Elementary schools, elected grade teachers	$593.53	$650.02	$739.27
Elementary schools, principals	1,973.92	1,959.09	1,368.68
Secondary schools, elected teachers:			
Men	1,466.00	1,498.93	1,623.82
Women	909.60	1,019.06	1,127.53

The advances in ten years have been as follows:

Elected grade teachers, from $593.53 to $739.27, an advance of 24½ per cent.

Men teachers in secondary schools, from $1,466 to $1,623.82, an advance of 1 per cent.

Women teachers in secondary schools, from $909.60 to $1,127.53, and advance of 2 per cent.

The figures for principals in elementary schools can not be used in a comparative survey; they form a special case involving radical readjustment that is not reflected in the figures. During the term 1906-1916 great changes have been

made in the assignment of supervisors, under which head principals were classed. Those members of the teaching force who were group principals in 1906, and who are now in the service as principals, are receiving more than the recorded rate for 1916; and those principals who were not group principals in 1906 have had increases in their individual salaries.

While something could be said regarding the distribution of increases, the fact is evident that all salaries are too low. The greatest stimulus to sustained energy is adequate monetary compensation. I earnestly suggest a substantial upward revision of the entire salary scale.

Improvement of Teachers in the Service.

The desire for self-improvement, always present in our teaching body, has received a remarkable stimulus in the establishment of a new degree at Johns Hopkins University. It is now possible for a teacher to receive official credits at the university without having to leave her school work. Summer courses, correspondence courses, and facilities for study in afternoon and evening are offered by schools and colleges of all grades and invite the ambitious teacher to perfect herself in her art. In addition to these opportunities, the Board of School Commissioners has pursued the liberal policy of providing normal extension courses in those subjects which teachers choose; and many teachers whose special needs can be met more adequately in this way are attendants upon these normal extension lectures. From all sources come the most favorable reports upon the work done by our teachers as students.

A number of assistant superintendents and principals have conducted normal extension courses during the year without receiving any financial reward. I take this opportunity of expressing my appreciation to these gentlemen. In some cases these classes are formed of teachers in one

school meeting in the school; in others, the groups are made up of teachers from various schools. All of this tends to improve the work.

Teachers' Training School.

The Teachers' Training School is awaiting the time when it will be established in the buildings of the old State Normal School, recently acquired by the city authorities. The present building at Park avenue and Hoffman street was never well adapted to the uses of the school, and it is now entirely inadequate to meet the needs of the large numbers of students there enrolled. All indications point to an exceptionally large number of candidates for admission next September. Should this large number actually appear, it will not be possible to conduct the school in its present quarters with any satisfaction. As the senior class will be ready for practice work in September, your Board has approved a recommendation of the Superintendents that the number of practice teachers be increased from eleven to eighteen in white schools and from four to seven in colored schools.

The graduates of the Teachers' Training School now form a large proportion of the teaching force. Seven hundred and thirty-three of them are on the June roll, and 85 more will be employed in September. These figures are very significant. While the fact remains that a large number of our best teachers were not trained in normal schools, but gained their experience in actual classroom work, the graduate of a teachers' training school has a very great advantage. She brings to her first classroom work a measure of experience that ought to save her pupils from undue experimentation.

Preparatory Schools.

The preparatory classes were established before I became a member of the Board of Superintendents, and I cannot

speak authoritatively of the ideas which underlay their organization. It has been my aim, through personal conferences and study of reports, to find how far the activities at these schools accord with the probable motives of their originators.

If the preparatory schools require as a sine qua non for the accomplishment of their original aim that their students be especially gifted, and this appears, from early circulars concerning these schools, to have been the case, they are not actually working upon this basis. The number of gifted pupils whose parents choose to send them to the preparatory centers after they leave the sixth grade is far below the number required to maintain an economic organization of these three centers. It follows, therefore, that applicants of moderate ability must be admitted; and our records show that they have been admitted at all times. None of the principals now in charge of the schools was connected with them a few years ago, hence they are accustomed to the present conditions. But all of the former principals, now promoted, have expressed their regret that students of medium ability had to be admitted to these schools. If admission were limited to bright pupils, there would not be need for three schools.

Working with the material at hand, the preparatory schools have done well; but it is unfair to compare the achievements of their graduates with the work done in the high schools by graduates of the regular eighth grade. To a certain degree selection operates, and the preparatory school students form a special class; but above all, they have the tremendous advantage of being taught in small classes. If this one characteristic of the preparatory schools —small classes—could be imposed upon all elementary schools, what a great improvement we should have.

The argument that study of foreign languages should begin earlier has been advanced in behalf of the preparatory

schools. If this early beginning is advantageous, and I believe it is, it should be offered generally throughout the city. This could be done by a reorganization of the city school system into the Six-Three-Three plan and the three preparatory schools could be developed into

Intermediate Schools.

About seventy American cities have adopted some plan of intermediate schools, or junior high schools. The grades included in this division are the seventh and eighth, or the seventh, eighth and ninth. These schools, besides serving the general educational purposes, have a number of special advantages, namely:

1. They bridge the gap between elementary and high schools.
2. They keep the senior high schools from becoming too large, as is the case in Baltimore.
3. They make it possible to introduce better teaching methods in the seventh and eighth grades.
4. They will probably serve to keep at school a number of pupils who now find it impossible to attend a distant senior high school after graduation from the elementary schools.

This list does not exhaust the number of reasons that can be advanced in support of this reorganization. Instead of adding more, I desire to call attention to some pertinent figures from our reports.

Comparing Tables 1.142 and 1.143, we note the following:

Grade.	Enrollment.	Withdrawals.
Sixth	5,581	1,878
Seventh	3,861	1,274
Eighth	2,445	781

It will be observed that the rate of withdrawal is about 33 per cent in each grade. Of those who withdrew, 3,175, or 81 per cent, were over age.

The figures for the colored schools are:

Grade.	Enrollment.	Withdrawals.
Sixth	588	240
Seventh	448	161
Eighth	298	125

Here the average is about 40 per cent in each grade. Of the 526 pupils who withdrew, 457, or 87 per cent, were over age. Many of these pupils could be held in school longer by a more suitable readjustment of these upper grades.

Another source of waste is found by comparing the number of admissions to the secondary schools with the number promoted from the elementary schools. The following table gives the figures for 1914-1915 and 1915-1916:

COMPARISON OF NUMBER OF EIGHTH GRADE GRADUATES WITH THE NUMBERS OF THEM ENTERING SECONDARY SCHOOLS.

	1914-1915.			1915-1916.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
White schools:						
Baltimore City College	385	.....	.....	319	.....	.....
Baltimore Polytechnic Institute	294	.....	.....	310	.....	.....
Eastern High School	.....	322	.....	.....	265	.....
Western High School	.....	432	.....	.....	401	.....
Total entering high school	679	754	1,433	629	666	1,295
Total eighth grade promotions	937	1,076	2,013	987	1,084	2,071
Per cent entering high school	72.5	70.1	71.2	64.8	61.4	62.5
Colored schools:						
Entering Colored High School	48	105	153	31	94	125
Total eighth grade promotions	71	170	241	68	174	242
Per cent entering high school	67.6	61.8	63.5	45.6	54.0	51.7
All schools:						
Total entering high school	.....	.....	1,586	.....	.....	1,420
Total eighth grade promotions	.....	.....	2,254	.....	.....	2,313
Per cent entering high school	.....	.....	70.4	.....	.....	61.4

The number of promotions in 1916 was 2,071 pupils, of whom 1,295 entered the high school. This represents a loss of 37½ per cent. In colored schools the loss is nearly 52 per cent. Whatever form reorganization may ultimately assume, these figures bear testimony to the urgency of the problem, and I hope to have the honor of submitting a detailed plan of reorganization.

Vocational and Pre-vocational Schools.

Baltimore was the first city in America to establish a vocational school at public expense. In 1884 the Baltimore Manual Training School was opened to those boys of the sixth grade who elected a course emphasizing the manual arts. The favorable comments which we still hear concerning this school fully attest its value. The school was popular from the start and grew steadily. After a time it was found desirable to raise the standards within the school, and subsequently the requirements for admission, until the Baltimore Manual Training School developed into the Polytechnic Institute, which now forms a splendid unit in our school system. But nothing remains to take the place of the Baltimore Manual Training School.

Other cities, slower than Baltimore at first, took up vocational training and developed it along all lines. These cities have technical high schools like the Baltimore Polytechnic Institute and also vocational schools for younger pupils. At least four vocational schools should be opened in various sections of the city. The President of the United States appeals for them; Congress has before it the Smith-Hughes Bill, carrying Federal aid to those cities establishing and maintaining them; and during the year his Honor, the Mayor, held a public meeting at the City Hall to consider the question.

On account of the confusion of terms regarding vocational school work, the heading "vocational schools" is

susceptible of many interpretations. I am using it as a generic term without specifying particularly what it embraces. The literature on the subject is so voluminous and easy to obtain that it seems superfluous to enter into details in this report.

I desire, however, to suggest a few guiding thoughts:

1. The prime aim of these courses should be increased general efficiency and not skill in trades.

2. General efficiency is based mainly on a thorough ability to use the old tools of civilization—reading, writing and arithmetic.

3. The organization in these courses must be so flexible that a student can transfer from them to higher grades of academic work, should he so desire.

4. For those who must leave school early, these courses are a necessity.

5. In planning these courses, a careful study of the especial needs in Baltimore must be made.

Special Classes.

The following classes have been authorized by the Board and are in operation:

Three Classes for Anaemic Children — William Fell School, No. 6; George Washington School, No. 22; Francis Scott Key School, No. 76.

The pupils in these classes get a light lunch at 10.30 a. m. This consists of a cup of cocoa and crackers in cold weather, or a cup of milk and crackers in warm weather. At noon they are given a more substantial meal of farinaceous foods, e. g., rice, beans, peas, potatoes, and at times a small portion of meat, bread, butter, cocoa or milk, and a simple dessert, e. g., stewed prunes, cornstarch pudding, fruit in season or similar easily digested articles. At 12.30 they go to

their couches and sleep until 1.30. At 3.30 they are dismissed.

Five Classes for Cripples—Robert Eden School, No. 20; George Washington School, No. 22; Kernan's Hospital School; Children's Hospital School; Johns Hopkins Hospital School and Convalescent Home for Crippled Children.

The classes of crippled pupils are treated about the same as the anaemic, except that they are taken to their homes about 2 o'clock, their day being of the character of one session. Ten cents per pupil per day is received from the city for the above purpose.

Special Class for Mental Defectives at School No. 7.

The pupils in this class are under observation of experts from Phipps Psychiatric Clinic of the Johns Hopkins Hospital. It is strongly urged that the examination of mentally defective children by competent physicians be extended to other ungraded classes, especially those for colored pupils.

Course of Study.

Although I am not suggesting radical changes in the course of study in this report, the importance of keeping abreast of the times has not been overlooked. During the year two committees of elementary teachers were appointed for the purpose of revising the course, and a number of conferences with teachers and principals were held.

The result shows itself in a more rational emphasis in arithmetic, spelling, reading, handwriting, and the omission of a number of sub-topics in all studies.

Our course of study contains so much material that a competent principal has wide opportunities in the assignment of topics. It would be extremely unfortunate, in my opinion, to have all schools doing, or attempting to do ex-

actly the same work in exactly the same way and at exactly the same time. The bugaboo of the child who has to be transferred has been overworked. Any child well taught in any well-graded school will have little difficulty in finding himself in any other well-graded school.

Parental School.

The Parental School is in possession of its new quarters, and the work progresses satisfactorily. The school held full sessions during July and August.

Wider Use of the School Plant.

The liberal policy of the Board of School Commissioners toward a wider use of the school plant was continued during the year. The Public Athletic League, The Children's Playground Association, parents' clubs, and civic organizations are busily at work in school buildings and school yards. I have no specific recommendations to make concerning these activities.

Overcrowding.

The conditions remain similar to those reported last year. A large number of pupils are on part-time schedules. In this connection I beg to report that I have now under consideration a modification of the Gary Plan, which I may suggest as a means of relieving the congestion at William Paca School.

I am submitting for your consideration the reports of the assistant superintendents and other school officials.

Respectfully submitted,

Charles J. Koch,
Superintendent.

INDEX SHOWING SYSTEM OF NUMBERING.

	All schools—general.	Day schools.								Night schools—general.	Summer schools—general.
		General.	White.				Colored.				
			Normal.	Secondary.	Intermediate.	Elementary.	Normal.	Secondary.	Elementary.		
General survey	.....	1.00	.....	.....	.....	.....	.....	.....	.....	2.00	3.00
Schools compared	.....	1.001	.....	.....	.....	.....	.....	.....	.....	2.001	.....
Comparison by grades	.....	1.0012	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gross enrollment	4.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Roll, 1829-1916	4.001	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Enrollment by sources	.....	1.10	1.11	.....	1.13	.....	1.21	.....	.....	2.00a	.....
Enrollment by sources	.....	1.20	.....	.....	.....	.....	.....	.....	.....	2.00b	.....
Grade—Age	.....	.....	1.112	1.122	.....	1.142	1.212	1.222	1.242	2.002	.....
Grade—Time	.....	.....	.....	1.1222	.....	1.1422	.....	1.2222	1.2422	.....	.....
W. P.—Ages	.....	.....	.....	1.123	.....	1.143	.....	1.223	1.243	2.003	.....
W. P.—Causes	.....	.....	1.1132	1.1232	.....	1.1432	1.2132	1.2232	1.2432	.....	.....
Promotions and non-promotions	.....	.....	1.114	1.124	.....	1.144	1.214	1.224	1.244	.....	.....
Promotions and non-promotions	.....	.....	.....	.....	.....	1.144a	.....	.....	1.244a	.....	.....
Promotions and non-promotions	.....	.....	.....	.....	.....	1.144b	.....	.....	1.244b	.....	.....
Non-promotions—Cause	.....	.....	.....	1.1242	.....	1.1442	.....	1.2242	1.2442	.....	.....
Non-promotions—Studies	.....	.....	.....	1.1243	.....	1.1443	.....	1.2243	1.2443	.....	.....
Attendance	.....	.....	1.115	1.125	.....	1.145	1.215	1.225	1.245	2.005	.....
Related activities:											
Manual training	.....	1.044M	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cookery	.....	1.044C	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kindergarten	.....	1.044K	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ungraded and special	.....	1.044S	.....	.....	.....	.....	.....	.....	.....	.....	.....
Recapitulation	4.002	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

EXPLANATORY—The scheme for numbering the several statistical tables is the usual one used in filing and indexing by symbol figures. Each figure signifies a division or subdivision of that preceding it on the left. Thus, the figure 1 to the left of the decimal point signifies day schools; 2, night schools; 3, summer vacation schools; and 4, general data of all the foregoing. The figure 1 following immediately after the decimal point signifies that the statistics relate to schools for white pupils; 2, to schools for colored pupils; 0, to both. The second decimal figure 1 signifies normal schools; 2, secondary schools; 3, intermediate schools; 4, elementary schools; 0, general. The third decimal figure signifies the specific statistics pertaining to divisions symbolized by the figures preceding it, and any subsequent figures or letters other items thereunder. To illustrate: Table 1.142 presents statistics pertaining to (1.) day schools, (1.1) for white pupils, (1.14) elementary, (1.142) ages of pupils, which, summed up, signifies statistics giving the ages of white pupils in elementary day schools.

TABLE

General survey of all day schools for the year ending June 30, 1916, supervisors, teachers and pupils by race, sex

WHITE

Grade of School.	Number of schools, June 30, 1916.	Number of teachers, including principals and substitutes in charge of classes.		
		Men.	Women.	Totals.
Normal schools:				
Teachers' Training School.....	1	*1	6	7
Secondary schools:				
Baltimore City College.....	1	*37	.....	37
Baltimore Polytechnic Institute..	1	*60	.....	60
Eastern High School.....	1	* 2	38	40
Western High School.....	1	* 1	52	53
Totals.....	4	100	90	190
Elementary schools:				
Grades 1 to 8.....	88	50	1,396	1,446
Kindergartens	.....	.....	40	40
Ungraded classes.....	.....	.....	31	31
Parental School.....	1	* 1	2	3
Totals.....	89	51	1,469	1,520
All white schools:				
Totals.....	94	152	1,565	1,717

1.00.

showing: Number of buildings and number of superintendents, and grade of schools; also grand totals.

SCHOOLS.

Number of pupils belonging, June 30, 1916.	Average number belonging for the scholastic year.	Average attendance for the year.	Per cent of attendance.	Total net enrollment of pupils for the scholastic year 1915-1916.			Net roll, June 30, 1916 (includes number belonging and temporarily dropped absentees).
				Boys.	Girls.	Totals.	
215	223	214	96	11	232	243	217
864	944	876	93	1,081	.....	1,081	919
1,145	1,226	1,160	95	1,420	.....	1,420	1,167
876	916	858	94	.....	1,028	1,028	924
1,363	1,422	1,344	95	.....	1,628	1,628	1,400
4,248	4,508	4,238	94	2,501	2,656	5,157	4,410
53,300	54,229	49,243	91	31,042	30,174	61,216	55,395
758	775	624	81	594	533	1,127	886
450	470	414	88	683	183	866	521
36	35	34	97	63	.....	63	36
54,544	55,509	50,315	91	32,382	30,890	63,272	56,838
59,007	60,240	54,767	91	34,894	33,778	68,672	61,465

TABLE

General survey of all day schools for the year ending June 30, 1916, supervisors, teachers and pupils by race, sex

COLORED

Grade of School.	Number of schools, June 30, 1916.	Number of teachers, including principals and substitutes in charge of classes.		
		Men.	Women.	Totals.
Normal school:				
Colored Training School.....	1	* 2	3	5
Secondary school:				
Colored High School.....	1	*15	18	33
Elementary schools:				
Grades 1 to 8.....	16	49	189	238
Kindergartens	.....	.....	7	7
Ungraded classes.....	.....	.....	3	3
Totals.....	16	49	199	248
All colored schools:				
Totals.....	18	66	220	286

1.00.—*Continued.*

showing: Number of buildings and number of superintendents, and grade of schools; also grand totals.

SCHOOLS.

Number of pupils belonging, June 30, 1916.	Average number belonging for the scholastic year.	Average attendance for the year.	Per cent of attendance.	Total net enrollment of pupils for the scholastic year 1915-1916.			Net roll, June 30, 1916 (includes number belonging and temporarily dropped absentees).
				Boys.	Girls.	Totals.	
92	92	88	96	23	89	112	105
589	622	586	94	249	539	788	708
8,656	9,133	7,650	84	5,219	6,063	11,282	9,895
169	144	118	82	109	125	234	192
37	41	35	85	53	28	81	48
8,862	9,318	7,803	84	5,381	6,216	11,597	10,135
9,543	10,032	8,477	84	5,653	6,844	12,497	10,948

TABLE

General survey of all day schools for the year ending June 30, 1916, supervisors, teachers and pupils by race, sex

SUMMARY FOR

Grade of School.	Number of schools, June 30, 1916.	Number of teachers, including principals and substitutes in charge of classes.		
		Men.	Women.	Totals.
Normal schools	2	3	9	12
Secondary schools	5	115	107	222
Elementary schools	105	100	1,668	1,768
Superintendents, supervisors, and special teachers:				
Superintendent	.....	1	.....	1
Assistant superintendents	.....	6	.....	6
Supervisors:				
Principals of schools	.....	*(49)	*(55)	.....
Practice	.....	.....	1	1
Music	.....	1	.....	1
Drawing	.....	.....	1	1
Sewing	.....	.....	1	1
Physical training	.....	1	.....	1
Manual training	.....	*(1)	.....	.....
Special teachers:				
Music	.....	.....	4	4
Drawing	.....	.....	8	8
Sewing	.....	.....	39	39
Physical training	.....	.....	4	4
Manual training	.....	21	4	25
Cookery	.....	.....	24	24
Grand totals	112	248	1,870	2,118

*Principals giving more than half their time to supervision schools; supervisor of manual training counted in the faculty of

1.00.—*Continued.*

showing: Number of buildings and number of superintendents, and grade of schools; also grand totals.

ALL DAY SCHOOLS.

Number of pupils belonging, June 30, 1916.	Average number belonging for the scholastic year.	Average attendance for the year.	Per cent of attendance.	Total net enrollment of pupils for the scholastic year 1915-1916.			Net roll, June 30, 1916 (includes number belonging and temporarily dropped absentees).
				Boys.	Girls.	Totals.	
307	315	302	96	34	321	355	322
4,837	5,130	4,824	94	2,750	3,195	5,945	5,118
63,406	64,827	58,118	90	37,763	37,106	74,869	66,973
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....				
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.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
68,550	70,272	63,244	90	40,547	40,622	81,169	72,413

and administration counted in the faculties of their respective Polytechnic Institute.

TABLE 1.001.

GRADES OF SCHOOLS COMPARED.

Net roll of June 30, 1916, compared with net roll of June 30, 1915, showing increase and decrease.

White Schools.

Grade of School.	Year 1915-16.	Year 1914-15.	+Increase. —Decrease.
Normal school:			
Teachers' Training School..	217	160	+ 57
Secondary schools:			
Baltimore City College (boys)	919	798	+ 121
Baltimore Polytechnic Institute (boys).....	1,167	1,210	— 43
Eastern High School (girls)	924	857	+ 67
Western High School (girls)	1,400	1,326	+ 74
Totals	4,410	4,191	+ 219
Elementary schools:			
Grades 1 to 8 inclusive.....	55,395	54,480	+ 915
Kindergartens	886	913	— 27
Ungraded classes.....	521	500	+ 21
Parental school.....	36	36	.....
Totals	56,838	55,929	+ 909
All white schools:			
Totals	61,465	60,280	+1,185

TABLE 1.001—*Continued.*

GRADES OF SCHOOLS COMPARED.

Net roll of June 30, 1916, compared with net roll of June 30, 1915, showing increase and decrease.

Colored Schools.

Grade of School.	Year 1915-16.	Year 1914-15.	+Increase. —Decrease.
Normal school:			
Colored Training School.....	105	40	+ 65
Secondary schools:			
Colored High School.....	708	681	+ 27
Elementary schools:			
Grades 1 to 8 inclusive.....	9,895	9,764	+ 131
Kindergartens	192	125	+ 67
Ungraded classes.....	48	39	+ 9
Totals	10,135	9,928	+ 207
All colored schools:			
Totals	10,948	10,649	+ 299

Summary for All Day Schools.

Normal schools.....	322	200	+ 122
Secondary schools.....	5,118	4,872	+ 246
Elementary schools.....	66,973	65,857	+1,116
Grand totals.....	72,413	70,929	+1,484

TABLE 2.00.

GENERAL SURVEY OF ALL NIGHT SCHOOLS.

Showing number and kind of schools, enrollment, withdrawals, net roll and attendance during the term of 1915-1916.

Schools.	Gross enrollment.			Probationers dropping out before earning place on permanent roll.			Net enrollment during term.			Withdrawals during term.			Net roll at close of term.			Net roll during term.		Attendance during term.		Per cent of attendance.	Number of nights in session.	Average number teachers during term.		
	Male.	Female.	Totals.	Male.	Female.	Totals.	Male.	Female.	Totals.	Male.	Female.	Totals.	Male.	Female.	Totals.	Aggregate.	Average.	Aggregate.	Average.			Male.	Female.	Totals.
White.																								
Secondary:																								
Baltimore City College	1,000	755	1,755	38	57	95	962	698	1,660	615	362	977	347	336	683	64,237	945	49,587	729	77	68	21	5	26
Evening High	748	63	811	145	.....	145	603	63	666	390	25	415	213	38	251	26,477	384	18,984	275	72	69	14	.....	14
Totals	1,748	818	2,566	183	57	240	1,565	761	2,326	1,005	387	1,392	560	374	934	90,714	1,329	68,571	1,004	76	.....	35	5	40
Elementary:																								
No. 1	261	77	338	.....	.....	.....	261	77	338	164	54	218	97	23	120	11,755	175	10,041	150	85	67	7	1	8
No. 30	99	48	147	33	12	45	66	36	102	53	34	87	13	2	15	2,873	46	2,070	33	72	62	1	1	2
No. 40	529	370	899	148	81	229	381	289	670	264	184	448	117	105	222	28,183	421	20,384	304	72	67	5	12	17
No. 42	425	336	761	70	44	114	355	292	647	156	135	291	199	157	356	29,316	438	23,888	357	81	67	8	7	15
No. 70	77	38	115	14	5	19	63	33	96	25	8	33	38	25	63	5,579	83	4,405	66	77	67	3	.....	3
No. 76	17	13	30	3	5	8	14	8	22	3	1	4	11	7	18	280	18	186	12	66	16	1	.....	1
No. 83	130	52	182	19	6	25	111	46	157	72	30	102	39	16	55	5,002	77	3,706	57	74	65	1	2	3
No. 86	84	.....	84	.....	.....	.....	84	.....	84	44	.....	44	40	.....	40	852	20	733	17	86	43	1	.....	1
No. 94	131	45	176	8	3	11	123	42	165	99	33	132	24	9	33	5,160	85	3,279	54	64	61	3	.....	3
Totals	1,753	979	2,732	295	156	451	1,458	823	2,281	880	479	1,359	578	344	922	89,000	1,363	68,692	1,050	77	.....	30	23	53
Cookery:																								
No. 7	.....	50	50	.....	.....	.....	.....	50	50	.....	3	3	.....	47	47	1,022	49	946	45	93	21	.....	1	1
No. 27	.....	48	48	.....	.....	.....	.....	48	48	.....	.....	.....	.....	48	48	1,040	50	906	43	87	21	.....	1	1
No. 45	.....	47	47	.....	10	10	.....	37	37	.....	.....	.....	.....	37	37	696	36	601	31	86	19½	.....	1	1
No. 47	.....	68	68	.....	2	2	.....	66	66	.....	31	31	.....	35	35	926	44	685	33	74	21	.....	1	1
No. 70	.....	56	56	.....	.....	.....	.....	56	56	.....	14	14	.....	42	42	945	45	717	34	76	21	.....	1	1
No. 74	.....	74	74	.....	39	39	.....	35	35	.....	6	6	.....	29	29	948	49	575	30	61	19½	.....	1	1
No. 75	.....	76	76	.....	36	36	.....	40	40	.....	.....	.....	.....	40	40	828	39	500	24	60	21	.....	1	1
No. 76	.....	59	59	.....	20	20	.....	39	39	.....	15	15	.....	24	24	736	38	667	34	91	19½	.....	1	1
No. 85	.....	63	63	.....	5	5	.....	58	58	.....	20	20	.....	38	38	922	42	677	31	73	21½	.....	1	1
No. 86	.....	65	65	.....	3	3	.....	62	62	.....	45	45	.....	17	17	791	39	613	30	78	20½	.....	1	1
No. 98	.....	65	65	.....	12	12	.....	53	53	.....	21	21	.....	32	32	844	42	581	29	69	20	.....	1	1
Totals	.....	671	671	.....	127	127	.....	544	544	.....	155	155	.....	389	389	9,698	473	7,468	364	77	.....	.....	11	11
Totals for white schools	3,501	2,468	5,969	478	340	818	3,023	2,128	5,151	1,885	1,021	2,906	1,138	1,107	2,245	189,412	3,165	144,731	2,418	76	.....	65	39	104
Colored.																								
Elementary:																								
Colored High School	366	823	1,189	54	242	296	312	581	893	131	266	397	181	315	496	45,091	653	25,693	372	57	69	11	7	18
No. 101	84	175	259	3	10	13	81	165	246	51	74	125	30	91	121	10,574	158	7,783	116	74	67	5	.....	5
No. 106	108	111	219	6	4	10	102	107	209	19	13	32	83	94	177	11,648	171	8,391	123	72	68	6	1	7
No. 112	123	240	363	16	26	42	107	214	321	43	86	129	64	128	192	11,835	174	8,144	120	69	68	4	1	5
No. 113	88	128	216	1	4	5	87	124	211	38	54	92	49	70	119	9,057	137	5,673	86	63	66	3	2	5
Totals for colored schools	769	1,477	2,246	80	286	366	689	1,191	1,880	282	493	775	407	698	1,105	88,205	1,293	55,684	817	63	.....	29	11	40
Grand totals	4,270	3,945	8,215	558	626	1,184	3,712	3,319	7,031	2,167	1,514	3,681	1,545	1,805	3,350	277,617	4,458	200,415	3,235	72	.....	94	50	144

TABLE 2.001.

Comparison of statistics of night schools for 1915-1916, with corresponding data for 1914-1915.

Items.	White night schools.			Colored night schools.			All night schools.		
	Year 1914-1915.	Year 1915-1916.	+Increase. —Decrease.	Year 1914-1915.	Year 1915-1916.	+Increase. —Decrease.	Year 1914-1915.	Year 1915-1916.	+Increase. —Decrease.
Number belonging March 31	2,795	2,245	—550	1,061	1,105	+ 44	3,856	3,350	—506
Average number belonging for the year	3,700	3,165	—535	1,318	1,293	— 25	5,018	4,458	—560
Average attendance for the year	2,852	2,418	—434	854	817	— 37	3,706	3,235	—471
Per cent of attendance for the year	77	76	— 1	65	63	— 2	74	72	— 2
Number of teachers	113	104	— 9	39	40	+ 1	152	144	— 8

TABLE

General survey of summer

Summer Schools.	Total enrollment during term.			Net roll at end of term.			Number of days in term.	Average daily net roll.
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.		
Review schools:								
White—								
Baltimore City College.....	367	.....	367	330	.....	330	29	344
Eastern High School.....	.....	130	130	.....	118	118	30	123
Western High School.....	.....	194	194	.....	181	181	29	184
Totals	367	324	691	330	299	629	.....	651
No. 1.....	217	166	383	172	143	315	37	339
No. 75.....	172	161	333	132	124	256	37	292
No. 93.....	205	202	407	169	173	342	37	376
Totals	594	529	1,123	473	440	913	.....	1,007
Colored—								
Colored High School.....	35	135	170	28	116	144	29	152
No. 103.....	116	227	343	84	175	259	37	297
No. 105.....	36	90	126	29	65	94	37	104
Totals	152	317	469	113	240	353	.....	401
Vocational school—								
No. 9.....	184	70	254	129	45	174	37	193
Totals all summer schools..	1,332	1,375	2,707	1,073	1,140	2,213	.....	2,404

3.00.

schools—Session of 1916.

Aggregate attendance.	Average daily attendance.	Per cent of attendance.	Number of teachers.		Work done.								Per cent gaining promotion.
					Number of subjects to be made up by pupils.				Number of pupils making up required subjects.				
			Men.	Women.	One.	Two.	Three.	Total pupils.	One.	Two.	Three.	Total pupils.	
9,582	330	.96	9	....	190	128	49	367	147	101	32	280	.76
3,508	117	.95	....	5	58	64	8	130	49	49	7	105	.81
5,200	179	.97	1	5	80	114	.....	194	103	53	.....	156	.80
18,290	626	.96	10	10	328	306	57	691	299	203	39	541	.78
11,322	306	.90	2	4	122	194	67	383	69	116	38	223	.58
10,221	277	.95	1	4	84	217	32	333	65	156	22	243	.73
13,066	353	.94	2	5	132	255	20	407	93	153	10	256	.63
34,609	936	.93	5	13	338	666	119	1,123	227	425	70	722	.64
3,983	137	.90	4	1	49	82	39	170	66	57	9	132	.78
9,684	262	.89	6	....	69	186	88	343	33	77	34	144	.42
3,059	83	.80	3	....	35	79	12	126	22	37	1	60	.47
12,743	345	.84	9	....	104	265	100	469	55	114	35	204	.43
					Sewing.	Millinery.	Drawing.	Carpentry.	Sheet metal.	Printing.			
6,133	166	.86	5	2	43	27	44	49	54	37			
65,758	2,210	.92	33	26									

TABLE 4.00.

Total gross enrollment in schools of every kind, 1915-1916.

Schools.	White schools.			Colored schools.			All schools.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Day schools	28,904	37,289	76,193	6,158	7,460	13,618	45,062	44,749	89,811
Night schools	3,501	2,468	5,969	769	1,477	2,246	4,270	3,945	8,215
Summer vacation schools	1,145	923	2,068	187	452	639	1,332	1,375	2,707
Totals	43,550	40,680	84,230	7,114	9,389	16,503	50,664	50,069	100,733

TABLE 4.001.

Showing the number of pupils and teachers in the public schools at the time of making the report each year, from the year 1829, when the first public school was opened, to the year 1916, inclusive. This statement does not include night schools or summer schools.

Date.	Teachers.	Pupils.	Date.	Teachers.	Pupils.
1829.....	3	269	1873.....	558	26,663
1830.....	5	402	1874.....	626	27,634
1831.....	5	627	1875.....	672	29,942
1832.....	5	640	1876.....	717	31,071
1833.....	5	544	1877.....	734	32,523
1834.....	8	859	1878.....	784	34,002
1835.....	8	747	1879.....	798	35,595
1836.....	8	814	1880.....	799	35,297
1837.....	8	659	1881.....	824	35,630
1838.....	8	675	1882.....	826	35,639
1839.....	16	1,126	1883.....	855	37,546
1840.....	22	1,834	1884.....	893	38,618
1841.....	27	2,331	1885.....	930	39,828
1842.....	28	2,464	1886.....	972	39,779
1843.....	30	2,669	1887.....	994	41,199
1844.....	38	3,366	1888.....	1,119	46,521
1845.....	52	4,313	1889.....	1,187	48,850
1846.....	65	5,087	1890.....	1,244	50,899
1847.....	90	6,439	1891.....	1,301	52,543
1848.....	100	6,696	1892.....	1,382	54,406
1849.....	110	6,763	1893.....	1,464	57,048
1850.....	119	7,093	1894.....	1,557	59,808
1851.....	138	8,011	1895.....	1,614	61,271
1852.....	175	9,081	1896.....	1,719	63,087
1853.....	186	9,447	1897.....	1,794	64,602
1854.....	207	9,717	1898.....	1,827	65,170
1855.....	217	10,588	1899.....	1,802	65,289
1856.....	238	11,441	1900.....	1,676	64,720
1857.....	245	11,269	1901.....	1,647	64,918
1858.....	256	11,587	1902.....	1,679	66,399
1859.....	267	11,750	1903.....	1,689	67,368
1860.....	284	13,186	1904.....	1,692	68,093
1861.....	295	13,424	1905.....	1,635	67,964
1862.....	311	13,888	1906.....	1,657	69,446
1863.....	333	14,874	1907.....	1,686	68,723
1864.....	343	15,319	1908.....	1,684	68,926
1865.....	366	15,957	1909.....	1,682	68,120
1866.....	402	17,550	1910.....	1,723	67,508
1867.....	490	22,073	*1911.....	1,696	62,652
1868.....	537	21,903	1912.....	1,739	63,323
1869.....	540	23,552	1913.....	1,890	66,506
1870.....	549	23,898	1914.....	1,960	69,025
1871.....	559	24,479	1915.....	2,062	70,965
1872.....	581	25,092	1916.....	2,118	72,413

* Six months only, January to June. Prior to 1911, annual reports covered the calendar year; subsequent to 1911, they covered the scholastic year, September to June, inclusive.

TABLE 1.10.

ENROLLMENT—WHITE PUPILS.

Showing number of white pupils admitted to the schools by sources whence they came and by grades of schools entered during the scholastic year 1915-1916.

Sources.	Number of pupils admitted during scholastic year 1915-1916.											
	Normal schools.			Secondary schools.			Elementary schools.			All white schools.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
June 30, 1916, roll.....	11	215	226	2,110	2,361	4,471	25,765	24,641	50,406	27,886	27,217	55,103
Private schools.....	.....	10	10	66	60	126	867	720	1,587	933	790	1,723
Public schools in this state outside of city....	.....	6	6	104	79	183	786	757	1,543	890	842	1,732
Public schools in other states	.....	1	1	28	52	80	538	570	1,108	566	623	1,189
All other sources.....	.....	.....	.....	36	22	58	4,503	4,333	8,836	4,539	4,355	8,894
Totals.....	11	232	243	2,344	2,574	4,918	32,459	31,021	63,480	34,814	33,827	68,641

TEACHERS' TRAINING SCHOOL

Total enrollment during scholastic year, 1915-16..... 243
(Juniors, male 6, female 149. Seniors, male 5, female 83).
Net roll at close of scholastic year..... 217
(Juniors, male 6, female 131. Seniors, male 4, female 76.)
Number withdrawn from school..... 26
(3 graduated, 23 for other causes.)
Average number belonging during scholastic year..... 223
Average attendance for the scholastic year..... 207
Per cent of attendance for the year, based on the average number belonging 95
Number of graduates this scholastic year..... 83
(February, male 1, female 2. June, male 4, female 76.)

TABLE 1.112.

Distribution of white pupils in normal school by ages and classes, June 30, 1916.

Ages.	Junior.			Senior.			School.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Over 16 to 17	....	....	....	....	....	....	....	....	....
Over 17 to 18	1	10	11	....	....	....	1	10	11
Over 18 to 19	1	30	31	1	1	2	2	31	33
Over 19 to 20	1	48	49	....	21	21	1	69	70
Over 20 to 21	2	38	40	1	44	45	3	82	85
Over 21	1	5	6	2	10	12	3	15	18
Totals by classes	6	131	137	4	76	80	10	207	217

TABLE 1.114.

Promotions and non-promotions, including graduation, of white pupils in normal school, 1915-1916, by classes and sexes, with corresponding rates per cent.

	Junior.			Senior.			School.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Promoted	6	131	137	5	78	83	11	209	220
Not promoted	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals by classes.	6	131	137	5	78	83	11	209	220
Per cent promoted.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Per cent not pronoted	.....	.....	.....	.....	.....	.....	.....	.....	.....

BALTIMORE CITY COLLEGE

ROLL ITEMS, 1915-16.

Number of pupils returned (from September, 1915, to June, 1916) from the previous school year		562
Number admitted by promotion from elementary schools before February		306
Number admitted by transfer from other secondary schools		42
Number admitted from elementary schools, February, 1916		63
Number admitted from private or parish schools		31
Number admitted from public schools outside of Baltimore		48
Number admitted from other sources		36
Total number in attendance during the year		1,088
Number permanently withdrawn during the year	162	
Number transferred to other schools	7	
		169
Total net roll, June, 1916		919
Number graduated, June, 1916		164
Number graduated, February, 1916		....
Total number of graduates during the year		164
Average number belonging during 1915-1916		942.8
Average attendance during 1915-1916		876.7
Percentage of attendance (based on average number belonging and average attendance), 1915-1916		92.53

BALTIMORE POLYTECHNIC INSTITUTE

ROLL, 1916.

Number of new pupils admitted during the year	1,361
Number of pupils admitted by promotion	73
Number of pupils admitted by transfer from the Baltimore City College	9
Total number of pupils during the year	1,443
Number of pupils withdrawn during the year and not re-entered	253
Number of pupils transferred to the Baltimore City College	23
Number of graduates, 1916	126
Number of pupils belonging, June, 1916	1,145
Number of pupils in care, June, 1916	1,167
Average number of pupils belonging during 1916	1,225
Average attendance during year 1916 (95 per cent)	1,161

EASTERN HIGH SCHOOL

ENROLLMENT IN 1915-16.

Number of pupils returned in September, 1915		633
Number admitted by promotion from elementary schools		322
Number admitted by transfer		4
Number admitted from schools other than Baltimore elementary schools		71
Total number in attendance during the year		1,030
Number withdrawn during year	104	
Number transferred to other schools	2	
		106
Enrollment, June, 1916		924
Number graduated September, 1915		1
Number graduated, June 21, 1916		165
Average number belonging during 1915-1916		915
Average attendance during 1915-1916		859
Percentage of attendance during 1915-1916		.94

WESTERN HIGH SCHOOL

ENROLLMENT IN 1915-16.

Number of pupils returned in September, 1915			966
Number admitted by promotion from elementary schools			514
Number admitted by transfer			2
Number admitted from schools other than Baltimore elementary schools			150
Total enrollment during the year			1,632
Number graduated from September, 1915, to February, 1916	14		
Graduates who re-entered	2		
		12	
Number withdrawn during year and not re-entered		216	
Number transferred to other schools		4	
			232
Net roll, June, 1916			1,400
Number graduated, June 22, 1916			218
Total number graduated during the year			232
Average number belonging during 1915-1916			1,421
Average attendance during 1915-1916			1,345
Percentage of attendance during 1915-1916			94.6

TABLE 1.122.

DISTRIBUTION OF PUPILS IN SECONDARY SCHOOLS FOR WHITE PUPILS BY AGES AND GRADES, JUNE, 30, 1916.

Showing also for each grade and for totals by ages the number of pupils under normal age, of normal age, and over normal age (retarded). Normal ages for each grade shown between the heavy horizontal lines in body of table.

Ages.	First year.			Second year.			Third year.			Fourth year.			Totals by ages.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
12-13	.....	1	1	.....	1	1	.....	.....	.....	.....	.....	.....	.....	2	2
13-14	39	54	93	7	9	16	.....	.....	.....	.....	.....	.....	46	63	109
14-15	218	260	478	30	53	83	4	3	7	.....	.....	.....	252	316	568
15-16	315	321	636	127	212	339	35	23	58	3	7	10	480	563	1,043
16-17	233	153	386	163	218	381	114	91	205	22	59	81	532	521	1,053
17-18	74	29	103	121	101	222	119	170	289	82	*152	234	396	452	848
18-19	24	2	26	31	14	45	81	124	205	126	*155	281	262	295	557
19-20	8	1	9	12	3	15	25	42	67	49	*47	96	94	93	187
20-21	.....	.....	.....	.....	.....	.....	6	4	10	12	*13	25	18	17	35
21-over	.....	.....	.....	1	.....	1	1	.....	1	4	2	6	6	2	8
Totals by grades.	911	821	1,732	492	611	1,103	385	457	842	298	435	733	2,086	2,324	4,410
Under normal age	39	55	94	37	63	100	39	26	65	25	66	91	140	210	350
Normal age	533	581	1,114	290	430	720	233	261	494	208	307	515	1,264	1,579	2,843
Over normal age	339	185	524	165	118	283	113	170	283	65	62	127	682	535	1,217

* Includes 6 girls in post-graduate class.

TABLE 1.1222.

DISTRIBUTION OF PUPILS IN SECONDARY SCHOOLS FOR WHITE PUPILS BY YEARS IN SECONDARY SCHOOLS AND GRADES, JUNE 30, 1916.

Showing also for each grade and for totals, the number who have been in schools less than normal time (accelerated), normal time, and more than normal time (repeating). Normal time shown between the heavy horizontal lines in body of table.

Years in School.	First year.			Second year.			Third year.			Fourth year.			Totals by years.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
0-½	139	102	241	1	15	16	.....	.....	.....	.....	.....	.....	140	117	257
½-1	632	693	1,325	.....	61	61	2	2	4	.....	.....	.....	634	756	1,390
1-2	131	25	156	417	485	902	16	75	91	2	.....	2	566	585	1,151
2-3	9	1	10	61	48	109	310	349	659	18	74	92	398	472	870
3-4	.....	.....	.....	12	2	14	53	31	84	246	*318	564	311	351	662
4-5	.....	.....	.....	.....	.....	.....	4	.....	4	27	*39	66	31	39	70
5-6	.....	.....	.....	1	.....	1	.....	.....	.....	5	4	9	6	4	10
Totals by grades	911	821	1,732	492	611	1,103	385	457	842	298	435	733	2,086	2,324	4,410
Less than normal	139	102	241	1	76	77	18	77	95	20	74	94	178	329	507
Normal	632	693	1,325	417	485	902	310	349	659	246	318	564	1,605	1,845	3,450
More than normal	140	26	166	74	50	124	57	31	88	32	43	75	303	150	453

* Includes 6 girls in post-graduate class.

TABLE 1.123.

WITHDRAWALS BY AGES.

Distribution of pupils other than graduates in secondary schools for white pupils, permanently withdrawn from this system during the scholastic year ending June 30, 1916 (including summer vacation), by ages and grades.

Between Ages.	First year.			Second year.			Third year.			Fourth year.			Totals by ages.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
13-14	7	5	12	.....	1	1	.....	.....	.....	.....	.....	.....	7	6	13
14-15	48	47	95	5	6	11	.....	3	3	.....	.....	.....	53	56	109
15-16	127	98	225	28	38	66	5	5	10	.....	.....	.....	160	141	301
16-17	121	86	207	45	77	122	19	19	38	3	.....	3	188	182	370
17-18	70	32	102	38	54	92	29	32	61	2	7	9	139	125	264
18-19	33	10	43	20	25	45	27	23	50	9	9	18	89	67	156
19-20	3	4	7	6	6	12	14	9	23	7	*6	13	30	25	55
20-21	.....	.....	.....	.....	3	3	2	2	4	5	*3	8	7	8	15
21-over	.....	.....	.....	.....	.....	.....	2	.....	2	.....	.....	.....	2	.....	2
Totals by grades	409	282	691	142	210	352	98	93	191	26	25	51	675	610	1,285
Under normal age	7	5	12	5	7	12	5	8	13	3	.....	3	20	20	40
Normal age	175	145	320	73	115	188	48	51	99	11	16	27	307	327	634
Over normal age	227	132	359	64	88	152	45	34	79	12	9	21	348	263	611

* Includes 2 girls in post-graduate work.

TABLE 1.1232.

WITHDRAWALS BY CAUSES.

Distribution of pupils other than graduates in secondary schools for white pupils permanently withdrawn from this system during the scholastic year ending June 30, 1916 (including summer vacation), by causes and grades.

Causes.	First year.			Second year.			Third year.			Fourth year.			Totals by causes.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
To go to work.....	176	21	197	66	23	89	36	8	44	11	1	12	289	53	342
Lack of success.....	38	21	59	16	6	22	7	5	12	6	3	9	67	35	102
Indifference	2	6	8	.....	6	6	1	4	5	.....	.....	.....	3	16	19
Physical disability or death	5	47	52	3	28	31	8	20	28	2	2	4	18	97	115
Left the city.....	14	15	29	4	8	12	7	4	11	.....	1	1	25	28	53
To private schools.....	15	32	47	15	26	41	5	6	11	3	*3	6	38	67	105
Other causes and unknown	159	140	299	38	113	151	34	46	80	4	*15	19	235	314	549
Totals by grades...	409	282	691	142	210	352	98	93	191	26	25	51	675	610	1,285

* Includes 2 girls in post-graduate class.

TABLE 1.124.

Promotions and non-promotions of pupils in secondary schools for white pupils, 1915-1916, by grades and sexes, with corresponding rates per cent.

	First year.			Second year.			Third year.			Fourth year.			Totals by promotions and non-promotions.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
Promoted	819	658	1,477	419	527	946	333	421	754	271	*399	670	1,842	2,005	3,847
Not promoted	164	93	257	67	72	139	44	35	79	23	37	60	298	237	535
Totals by grades	983	751	1,734	486	599	1,085	377	456	833	294	436	730	2,140	2,242	4,382
Per cent promoted	83.3	87.6	85.2	86.2	88.0	87.2	88.3	92.3	90.5	85.2	91.5	91.8	86.1	89.4	87.8
Per cent not promoted	16.7	12.4	14.8	13.8	12.0	12.8	11.7	07.7	09.5	14.8	08.5	08.2	13.9	10.6	12.2

* Includes 6 girls in post-graduate class.

TABLE 1.1242.

Non-promotions by causes and grades in secondary schools for white pupils, June 30, 1916.

Causes.	First year.			Second year.			Third year.			Fourth year.			Totals by causes.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
Irregular attendance	46	15	61	21	12	33	17	3	20	3	.....	3	87	30	117
Lack of preparation.....	39	2	41	3	1	4	4	.....	4	11	1	12	57	4	61
Personal illness	5	.....	5	8	.....	8	1	.....	1	2	1	3	16	1	17
Indifference	35	15	50	4	20	24	13	4	17	2	.....	2	54	39	93
Low ability	10	61	71	7	39	46	3	28	31	3	30	33	23	158	181
Other causes	29	.....	29	24	.....	24	6	.....	6	2	5	7	61	5	66
Totals by grades.....	164	93	257	67	72	139	44	35	79	23	37	60	298	237	535

TABLE 1.1243.

ACCOMPLISHMENTS AND FAILURES BY STUDIES AND GRADES IN SECONDARY SCHOOLS FOR WHITE PUPILS, JUNE 30, 1916.

Number of pupils accomplishing the required work in the several studies; the number failing to do so; and the number taking each study—not including pupils admitted from the elementary grades in February of this scholastic year.

Year of School. Subject.	First year.			Second year.			Third year.			Fourth year.			Totals.			Per cent of accomplishment.
	Accomplishments.	Failures.	Totals.	Accomplishments.	Failures.	Totals.	Accomplishments.	Failures.	Totals.	Accomplishments.	Failures.	Totals.	Accomplishments.	Failures.	Totals.	
English, composition, rhetoric, literature, grammar	1,348	311	1,659	963	131	1,094	743	85	828	635	21	656	3,689	548	4,237	87.1
German	435	155	590	576	138	714	535	61	596	85	7	92	1,631	361	1,992	81.9
French	51	5	56	193	33	226	107	9	116	60	4	64	411	51	462	89.0
Spanish	.....	.....	.....	.....	.....	.....	39	8	47	.....	.....	...	39	8	47	83.0
Latin	454	164	618	366	123	489	210	22	232	167	2	169	1,197	311	1,508	79.4
Greek	19	3	22	19	.....	19	4	.....	4	.....	.....	.....	42	3	45	93.3
History	1,003	137	1,140	356	29	385	247	42	289	468	25	493	2,074	233	2,307	89.9
Political economy	.....	.....	.....	.....	.....	.....	.....	.....	.....	112	8	120	112	8	120	93.3
Civics	.....	.....	.....	283	14	297	.....	.....	.....	273	14	287	556	28	584	95.2
Algebra	1,013	303	1,316	273	66	339	234	47	281	.....	.....	.....	1,520	416	1,936	78.5
Geometry	394	99	493	641	137	778	55	7	62	.....	.....	.....	1,090	243	1,333	81.8
Analytical geometry	.....	.....	.....	.....	.....	.....	163	26	189	14	1	15	177	27	204	86.8
Trigonometry	.....	.....	.....	256	41	297	251	16	267	11	.....	11	518	57	575	90.1
Calculus	.....	.....	.....	.....	.....	.....	.....	.....	.....	127	9	136	127	9	136	93.4
Mechanics	.....	.....	.....	.....	.....	.....	.....	.....	.....	129	7	136	129	7	136	94.8

Steam engineering	.....	.....	.....	.....	.....	.....	172	17	189	130	6	136	302	23	235	92.9
Machine practice	.....	.....	.....	.....	.....	.....	189	.....	189	128	8	136	317	8	325	97.5
Mechanical drawing	488	5	493	381	17	398	201	4	205	168	5	173	1,238	31	1,269	97.6
Freehand drawing	1,058	41	1,099	656	32	688	321	5	326	136	5	141	2,171	83	2,254	96.4
Physics	.....	.....	.....	252	45	297	500	89	589	19	.....	19	771	134	905	84.1
Electricity	.....	.....	.....	.....	.....	.....	181	8	189	131	5	136	312	13	325	96.3
Chemistry	.....	.....	.....	.....	.....	.....	244	55	299	342	30	372	586	85	671	87.3
Review mathematics	.....	.....	.....	.....	.....	.....	.....	.....	.....	71	5	76	71	5	76	93.4
Biology	.....	.....	.....	208	44	252	.....	.....	.....	.....	.....	.....	208	44	252	82.5
Zoology	.....	.....	.....	123	21	144	.....	.....	.....	60	5	65	183	26	209	87.6
Botany	220	29	249	.....	.....	.....	.....	.....	.....	.....	.....	.....	220	29	249	80.3
Physical geography	103	8	111	.....	.....	.....	.....	.....	.....	.....	.....	.....	103	8	111	92.8
Astronomy	.....	.....	.....	.....	.....	.....	.....	.....	.....	38	5	43	38	5	43	88.4
Bookkeeping	343	112	455	187	59	246	109	17	126	24	7	31	663	195	858	77.3
Penmanship	225	9	234	.....	.....	.....	.....	.....	.....	.....	.....	.....	225	9	234	96.2
Commercial arithmetic	381	97	478	.....	.....	.....	.....	.....	.....	57	15	72	438	112	550	79.6
Commercial geography	.....	.....	.....	.....	.....	.....	95	9	104	.....	.....	.....	95	9	104	91.3
Review arithmetic	.....	.....	.....	.....	.....	.....	.....	.....	.....	73	2	75	73	2	75	97.3
Business management	.....	.....	.....	.....	.....	.....	.....	.....	.....	97	6	103	97	6	103	94.2
Commercial law	.....	.....	.....	.....	.....	.....	.....	.....	.....	60	3	63	60	3	63	95.2
Stenography	446	119	565	177	53	230	197	26	223	72	6	78	892	204	1,096	81.4
Typewriting	444	115	559	191	46	237	207	17	224	72	6	78	914	184	1,098	83.2
Bench work	489	4	493	.....	.....	.....	.....	.....	.....	37	1	38	526	5	531	99.1
Woodturning	.....	.....	.....	297	.....	297	189	.....	189	.....	.....	.....	486	.....	486	100.0
Forging	.....	.....	.....	297	.....	297	.....	.....	.....	.....	.....	.....	297	.....	297	100.0
Sheet metal work	489	4	493	.....	.....	.....	.....	.....	.....	.....	.....	.....	489	4	493	99.2
Cookery and housekeeping	265	45	310	131	1	132	.....	.....	.....	21	6	27	417	52	469	88.9
Sewing and dressmaking	659	20	679	180	2	182	52	2	54	43	.....	43	934	24	958	97.5
Music	799	22	821	589	22	611	455	2	457	425	10	435	2,268	56	2,324	97.6
Physical training	830	37	867	452	20	472	261	3	264	115	1	116	1,658	61	1,719	96.5
Totals	11,956	1,844	13,800	8,047	1,074	9,121	5,961	577	6,538	4,400	235	4,635	30,304	3,730	34,094	.....
Rates per cent	86.6	13.4	100.0	88.2	11.8	100.0	91.2	08.8	100.0	94.9	05.1	100.0	88.9	11.1	100.0	.....

TABLE 1.125.

ATTENDANCE.

Distribution of attendance in secondary schools for white pupils by number of days and grades, June 30, 1916.

Time Attending.	First year.			Second year.			Third year.			Fourth year.			Totals by time.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
Attending entire year.....	74	72	146	52	54	106	25	44	69	25	45	70	176	215	391
At least 180 days.....	345	253	598	181	176	357	133	160	293	107	*169	276	766	758	1,524
160 to 179 days.....	444	392	836	231	317	548	183	223	406	152	*191	343	1,010	1,123	2,133
140 to 159 days.....	84	92	176	35	59	94	51	28	79	12	27	39	182	206	388
120 to 139 days.....	43	34	77	16	26	42	8	14	22	3	* 7	10	70	81	151
100 to 119 days.....	21	21	42	10	13	23	7	7	14	1	5	6	39	46	85
80 to 99 days.....	25	24	49	21	13	34	9	9	18	34	* 7	41	89	53	142
60 to 79 days.....	18	19	37	6	19	25	8	7	15	6	* 5	11	38	50	88
40 to 59 days.....	28	15	43	7	12	19	7	3	10	1	* 2	3	43	32	75
20 to 39 days.....	29	26	55	7	8	15	5	5	10	2	2	4	43	41	84
Less than 20 days.....	34	28	62	7	14	21	4	3	7	.....	6	6	45	51	96
Total by grades....	1,145	976	2,121	573	711	1,284	440	503	943	343	466	809	2,501	2,656	5,157

* Includes 44 pupils who were graduated in February and 6 in post-graduate class; 29 in Baltimore Polytechnic Institute, 1 in Eastern High School, 14 in Western High School.

ELEMENTARY SCHOOLS—WHITE PUPILS

TABLE 1.142.

GRADE—AGE.

Distribution of white pupils in elementary schools by ages and grades, June 30, 1916. Showing also for each grade and for totals by ages the number of pupils under normal age, of normal age, and over normal age (retarded). Normal age for each grade shown between heavy horizontal lines in body of table.

Ages.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by ages.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
5- 6	27	31	58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27	31	58
6- 7	1,362	1,320	2,682	12	22	34	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,374	1,343	2,717
7- 8	2,118	1,973	4,091	855	944	1,799	27	42	69	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,000	2,960	5,960
8- 9	888	717	1,605	1,840	1,808	3,648	645	785	1,430	34	58	92	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,407	3,368	6,775
9-10	280	227	507	966	906	1,872	1,554	1,634	3,188	575	624	1,199	52	52	104	1	1	2	.....	.....	.....	.....	.....	.....	3,428	3,444	6,872
10-11	92	69	161	424	336	760	1,125	1,010	2,135	1,258	1,299	2,557	460	553	1,013	40	38	78	1	6	7	.....	.....	.....	3,400	3,311	6,711
11-12	29	19	48	181	119	300	640	536	1,176	1,080	1,011	2,091	1,051	1,144	2,195	363	444	807	37	49	86	2	5	7	3,383	3,327	6,710
12-13	9	11	20	83	55	138	334	261	595	785	656	1,441	956	1,029	1,985	774	961	1,735	317	337	654	41	28	69	3,299	3,338	6,637
13-14	6	4	10	32	29	61	177	157	334	467	358	825	786	688	1,474	791	903	1,694	654	790	1,444	247	302	549	3,160	3,231	6,391
14-15	1	1	2	14	11	25	74	43	117	233	188	421	458	300	758	437	469	906	575	494	1,069	439	495	934	2,231	2,001	4,232
15-16	.....	.....	.....	3	1	4	24	13	37	110	31	141	194	103	297	160	142	302	243	234	477	307	323	630	1,041	847	1,888
16-17	1	.....	1	.....	.....	.....	3	2	5	9	3	12	23	8	31	29	21	50	58	50	108	114	112	226	237	196	433
17-18	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	3	1	4	4	2	6	7	8	15	13	13	26	28	24	52
18-19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	1	1	.....	1	1	.....	2	2	.....	5	5
19-20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	1	1
20-21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	1
Totals by grades	4,813	4,372	9,185	4,410	4,231	8,641	4,603	4,484	9,087	4,552	4,229	8,781	3,983	3,879	7,862	2,599	2,982	5,581	1,892	1,969	3,861	1,164	1,281	2,445	28,016	27,427	55,443
Under age	27	31	58	12	22	34	27	43	70	34	59	93	52	52	104	41	39	80	38	55	93	43	33	76	274	334	608
Normal age	3,480	3,293	6,773	2,695	2,752	5,447	2,199	2,419	4,618	1,833	1,923	3,756	1,511	1,697	3,208	1,137	1,405	2,542	971	1,127	2,098	686	797	1,483	14,512	15,413	29,925
Over age	1,306	1,048	2,354	1,703	1,457	3,160	2,377	2,022	4,399	2,685	2,247	4,932	2,420	2,130	4,550	1,421	1,538	2,959	883	787	1,670	435	451	886	13,230	11,680	24,910

TABLE 1.1422.

GRADE—TIME.

Distribution of white pupils in elementary schools by years in school and grades, June 30, 1916. Showing also for each grade and for totals the number who have been in schools less than normal time (accelerated), normal time, and more than normal time (repeating). Normal time shown between heavy horizontal lines in body of table.

Years in School.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by years.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
0- 1	3,313	3,230	6,543	51	59	110	3	2	5	1	1	2	.....	1	1	.....	2	2	.....	.....	.....	.....	1	1	3,368	3,296	6,664
1- 2	1,163	932	2,095	2,226	2,297	4,523	127	170	297	15	5	20	1	9	10	8	13	21	1	1	2	.....	.....	.....	3,541	3,427	6,968
2- 3	272	173	445	1,389	1,350	2,739	1,650	1,860	3,510	162	216	378	21	15	36	8	10	18	1	....	1	.....	.....	.....	3,503	3,624	7,127
3- 4	46	31	77	501	386	887	1,419	1,316	2,735	1,301	1,341	2,642	173	199	372	17	7	24	2	2	4	3	1	4	3,462	3,283	6,745
4- 5	15	5	20	179	110	289	852	714	1,566	1,420	1,330	2,750	1,131	1,206	2,337	165	176	341	11	15	26	1	3	4	3,774	3,559	7,333
5- 6	2	.....	2	47	24	71	382	316	698	954	793	1,747	1,196	1,273	2,469	731	859	1,590	125	136	261	16	7	23	3,453	3,408	6,861
6- 7	2	.....	2	14	2	16	109	74	183	430	359	789	792	765	1,557	820	1,078	1,898	631	635	1,266	115	97	212	2,913	3,010	5,923
7- 8	.....	.....	.....	2	3	5	47	28	75	190	143	333	435	322	757	559	590	1,149	657	692	1,349	467	511	978	2,357	2,289	4,646
8- 9	.....	1	1	1	.....	1	11	3	14	56	36	92	184	70	254	207	192	399	328	349	677	364	442	806	1,151	1,093	2,244
9-10	.....	.....	.....	.....	.....	.....	2	1	3	17	5	22	32	14	46	75	46	121	110	115	225	161	182	343	397	363	760
10-11	.....	.....	.....	.....	.....	.....	1	.....	1	6	.....	6	14	4	18	9	8	17	22	22	44	33	33	66	85	67	152
11-12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1	3	.....	1	1	3	2	5	4	4	8	9	8	17
12-13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	2	.....	.....	.....	1	.....	1	.....	.....	.....	3	.....	3
13-14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
14-15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
15-16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals by grades	4,813	4,372	9,185	4,410	4,231	8,641	4,603	4,484	9,087	4,552	4,229	8,781	3,983	3,879	7,862	2,599	2,982	5,581	1,892	1,969	3,861	1,164	1,281	2,445	28,016	27,427	55,443
Less than normal	.....	.....	.....	51	59	110	130	172	302	178	222	400	195	224	419	198	208	406	140	154	294	135	109	244	1,027	1,148	2,175
Normal	3,313	3,230	6,543	2,226	2,297	4,523	1,650	1,860	3,510	1,301	1,341	2,642	1,131	1,206	2,337	731	859	1,590	631	635	1,266	467	511	978	11,450	11,939	23,389
More than normal	1,500	1,142	2,642	2,133	1,875	4,008	2,823	2,452	5,275	3,073	2,666	5,739	2,657	2,449	5,106	1,670	1,915	3,585	1,121	1,180	2,301	562	661	1,223	15,539	14,340	29,879

TABLE 1.143.

WITHDRAWALS BY AGES.

Distribution of white pupils in elementary schools permanently withdrawn from this system during the scholastic year ending June 30, 1916 (including summer vacation), by ages and grades.

Between Ages.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by ages.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
5- 7	283	264	547	9	8	17	1	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	293	273	566
7- 8	221	206	427	121	140	261	8	11	19	2	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	352	357	709
8- 9	88	99	187	148	176	324	75	93	168	11	7	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	322	375	697
9-10	42	42	84	112	96	208	146	124	270	51	62	113	.....	4	4	2	1	3	.....	.....	.....	.....	.....	.....	353	329	682
10-11	32	10	42	49	48	97	98	103	201	115	93	208	19	21	40	2	7	9	.....	1	1	.....	.....	.....	315	283	598
11-12	9	1	10	26	25	51	79	76	155	101	83	184	46	56	102	93	37	130	2	6	8	1	.....	1	357	284	641
12-13	2	6	8	18	6	24	56	47	103	80	72	152	75	68	143	60	59	119	17	21	38	3	1	4	311	280	591
13-14	1	6	7	10	6	16	40	35	75	61	62	123	90	102	192	109	110	219	64	78	142	20	35	55	395	434	829
14-15	3	.....	3	5	14	19	20	34	54	78	110	188	99	142	241	445	413	858	286	278	564	120	128	248	1,056	1,119	2,175
15-16	.....	.....	.....	12	3	15	12	17	29	54	41	95	174	134	308	277	141	418	186	163	349	150	135	285	865	634	1,499
16-17	.....	.....	.....	1	1	2	16	9	25	51	10	61	140	62	202	63	41	104	91	59	150	77	76	153	439	258	697
17-18	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	2	6	50	11	61	5	11	16	9	11	20	21	10	31	89	45	134
18-19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	2	2	.....	3	3
19-20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	2	2	.....	3	3
20-21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	1	.....	1
21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	1	.....	1
Totals by grades	681	634	1,315	511	523	1,034	551	550	1,101	608	542	1,150	693	600	1,293	1,057	821	1,878	656	618	1,274	392	389	781	5,149	4,677	9,826
Under normal age	.....	.....	.....	9	8	17	9	12	21	13	7	20	.....	4	4	4	8	12	2	7	9	4	1	5	41	47	88
Normal age	504	470	974	269	316	585	221	217	438	166	155	321	65	77	142	153	96	249	81	99	180	140	163	303	1,599	1,593	3,192
Over normal age	177	164	341	233	199	432	321	321	642	429	380	809	628	519	1,147	900	717	1,617	573	512	1,085	248	225	473	3,509	3,037	6,546

TABLE 1.1432.

WITHDRAWALS BY CAUSES.

Distribution of white pupils of elementary schools permanently withdrawn from this system during the scholastic year ending June 30, 1916 (including summer vacation), by causes and grades.

Causes.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by causes.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
To go to work	1	....	1	4	1	5	25	20	45	104	67	171	316	147	463	785	470	1,255	542	347	889	317	183	500	2,094	1,235	3,329
Lack of success	....	1	1	....	....	....	....	1	1	....	....	....	....	1	1	....	....	....	....	4	4	1	4	5	1	11	12
Indifference	8	12	20	....	....	....	....	....	....	2	1	3	....	3	3	1	2	3	....	3	3	1	1	2	12	22	34
Physical disability or death	118	114	232	33	43	76	41	51	92	48	43	91	28	44	72	22	34	56	6	37	43	2	24	26	298	390	688
Left the city	330	310	640	306	294	600	313	279	592	281	235	516	238	221	459	149	161	310	66	88	154	28	56	84	1,711	1,644	3,355
To private school	139	108	247	139	159	298	150	157	307	145	106	251	79	78	157	56	43	99	33	42	75	31	45	76	772	738	1,510
Other causes	85	89	174	29	26	55	22	42	64	28	90	118	32	106	138	44	111	155	9	97	106	12	76	88	261	637	898
Totals by grades	681	634	1,315	511	523	1,034	551	550	1,101	608	542	1,150	693	600	1,293	1,057	821	1,878	656	618	1,274	392	389	781	5,149	4,677	9,826

TABLE 1.144.

PROMOTIONS.

Promotions of white pupils, normal and repeating, in elementary schools.

Promotions.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by promotions.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
In grade first time.	2,284	2,395	4,679	2,741	2,857	5,598	2,366	2,586	4,952	2,180	2,227	4,407	1,972	2,191	4,163	1,456	1,708	3,164	1,110	1,150	2,260	848	975	1,823	14,957	16,089	31,046
In grade second time or longer..	1,391	1,152	2,543	1,058	763	1,821	1,127	1,023	2,150	1,206	1,016	2,222	885	781	1,666	535	541	1,076	286	242	528	139	109	248	6,627	5,627	12,254
Totals by grades.	3,675	3,547	7,222	3,799	3,620	7,419	3,493	3,609	7,102	3,386	3,243	6,629	2,857	2,972	5,829	1,991	2,249	4,240	1,396	1,392	2,788	987	1,084	2,071	21,584	21,716	43,300

TABLE 1.144b.

NON-PROMOTIONS.

Non-promotions of white pupils, by grades, in elementary schools.

Non-promotions.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by non-promotions.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
In grade first time.	1,040	907	1,947	646	517	1,163	759	690	1,449	787	698	1,485	708	629	1,337	494	542	1,036	353	370	723	150	146	296	4,937	4,499	9,436
In grade second time or longer...	382	264	646	219	150	369	306	213	519	364	238	602	319	202	521	145	133	278	64	52	116	23	6	29	1,822	1,258	3,080
Totals by grades.	1,422	1,171	2,593	865	667	1,532	1,065	903	1,968	1,151	936	2,087	1,027	831	1,858	639	675	1,314	417	422	839	173	152	325	6,759	5,757	12,516

TABLE 1.1442.

NON-PROMOTIONS.

Non-promotions by causes and grades in white elementary schools

Causes.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by causes.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
Irregular attendance	213	216	429	104	124	228	136	169	305	167	190	357	172	201	373	59	142	201	31	63	94	13	11	24	895	1,116	2,011
Late entrance or early leaving....	110	76	186	59	63	122	56	50	106	43	59	102	29	40	69	26	31	57	16	20	36	3	6	9	342	345	687
Personal illness....	118	105	223	55	55	110	51	50	101	35	46	81	24	35	59	19	25	44	13	17	30	6	9	15	321	342	663
Physical defects....	79	39	118	29	11	40	37	21	58	26	23	49	23	12	35	11	13	24	5	1	6	4	10	14	214	130	344
Indifference	229	153	382	216	92	308	373	199	572	504	243	747	500	222	722	306	154	460	220	129	349	106	66	172	2,454	1,258	3,712
Low ability.....	673	582	1,255	402	322	724	412	414	826	377	375	752	278	321	599	223	307	530	130	193	323	40	50	90	2,535	2,564	5,099
Totals by grades.	1,422	1,171	2,593	865	667	1,532	1,065	903	1,968	1,152	936	2,088	1,026	831	1,857	644	672	1,316	415	423	838	172	152	324	6,761	5,755	12,516

TABLE 1.1443.

NON-PROMOTIONS—FAILURES BY STUDIES.

Failures by studies and grades in white elementary schools.

Failures by Studies.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by failures.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
Number of pupils failing	1,422	1,171	2,593	865	667	1,532	1,065	903	1,968	1,152	936	2,088	1,026	831	1,857	644	672	1,316	415	423	838	172	152	324	6,761	5,755	12,516
Reading	1,142	897	2,039	433	306	739	371	239	610	304	201	505	177	105	282	51	47	98	41	21	62	21	16	37	2,540	1,832	4,372
Spelling	304	234	538	395	238	633	502	384	886	550	329	879	427	285	712	226	186	412	92	69	161	43	31	74	2,539	1,756	4,295
Composition	.....	.....	.....	27	12	39	68	38	106	370	235	605	403	300	703	266	214	480	140	109	249	59	49	108	1,333	957	2,290
Language and grammar	4	.....	4	168	105	273	360	249	609	620	465	1,085	722	489	1,211	489	442	931	318	268	586	130	87	217	2,811	2,105	4,916
Arithmetic and algebra	904	824	1,728	654	551	1,205	837	778	1,615	1,002	813	1,815	887	759	1,646	538	603	1,141	368	380	748	155	156	311	5,345	4,864	10,209
History	.....	.....	.....	.....	.....	.....	.....	.....	.....	230	149	379	325	264	589	248	220	468	149	210	359	67	71	138	1,019	914	1,933
Geography	.....	.....	.....	.....	.....	.....	13	.....	13	299	208	507	441	353	794	308	296	604	193	190	383	86	75	161	1,340	1,122	2,462
Science	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	3	10	.....	.....	.....	7	3	10
German	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	4	12	14	7	21	22	11	33
Latin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	10	30	15	9	24	35	19	54
Totals by grades	2,354	1,955	4,309	1,677	1,212	2,889	2,151	1,688	3,839	3,375	2,400	5,775	3,382	2,555	5,937	2,126	2,008	4,134	1,336	1,264	2,600	590	501	1,091	16,991	13,583	30,574

TABLE 1.145.

ATTENDANCE.

Distribution of attendance in white elementary schools by number of days and grade, June 30, 1916.

Time Attending.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by time.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
Entire year	43	31	74	72	48	120	52	53	105	69	65	134	50	64	114	43	59	102	54	60	114	45	59	104	428	439	867
At least 180 days..	812	579	1,391	1,068	915	1,983	1,282	1,112	2,394	1,310	1,133	2,443	1,261	1,092	2,353	976	926	1,902	825	713	1,538	555	559	1,114	8,089	7,029	15,118
160 to 179 days...	1,716	1,586	3,302	1,869	1,860	3,729	1,899	1,923	3,822	1,856	1,761	3,617	1,651	1,600	3,251	1,114	1,312	2,426	757	818	1,575	453	526	979	11,315	11,386	22,701
140 to 159 days....	969	911	1,880	778	778	1,556	772	760	1,532	687	673	1,360	612	659	1,271	342	438	780	200	242	442	103	130	233	4,463	4,591	9,054
120 to 139 days....	448	507	955	296	309	605	267	309	576	296	298	594	252	265	517	168	176	344	97	109	206	46	39	85	1,870	2,012	3,882
100 to 119 days....	287	270	557	176	145	321	158	186	344	187	174	361	149	162	311	114	109	223	62	81	143	46	36	82	1,179	1,163	2,342
80 to 99 days.....	310	306	616	145	126	271	123	140	263	128	137	265	120	78	198	102	113	215	86	55	141	36	30	66	1,050	985	2,035
60 to 79 days.....	238	209	447	62	99	161	86	79	165	101	76	177	91	87	178	77	90	167	51	64	115	35	33	68	741	737	1,478
40 to 59 days.....	194	156	350	75	75	150	100	89	189	85	78	163	70	78	148	73	67	140	49	60	109	26	25	51	672	628	1,300
20 to 39 days.....	149	178	327	69	86	155	96	69	165	98	74	172	82	63	145	88	75	163	55	62	117	29	32	61	666	639	1,305
Less than 20 days.	164	145	309	83	64	147	83	85	168	100	60	160	69	70	139	89	51	140	49	73	122	27	34	61	664	582	1,246
Totals by grades.	5,330	4,878	10,208	4,693	4,505	9,198	4,918	4,805	9,723	4,917	4,529	9,446	4,407	4,218	8,625	3,186	3,416	6,602	2,285	2,337	4,622	1,401	1,503	2,904	31,137	30,191	61,328

TABLE 1.20.

ENROLLMENT—COLORED PUPILS.

Showing number of colored pupils admitted to the schools by sources whence they came and by grades of schools entered during the scholastic year 1915-1916.

Sources.	Number of pupils admitted during scholastic year 1915-1916.											
	Normal schools.			Secondary schools.			Elementary schools.			All colored schools.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
June 30, 1916, roll	3	25	28	207	451	658	4,222	4,920	9,142	4,432	5,396	9,828
Private schools	2	5	7	.....	2	2	35	50	85	37	57	94
Public schools in this state, outside of city	.....	.....	.....	4	8	12	73	89	162	77	97	174
Public schools in other states	.....	.....	.....	.....	1	1	94	137	231	94	138	232
All other sources	18	59	77	.....	1	1	982	1,066	2,048	1,000	1,126	2,126
Totals	23	89	112	211	463	674	5,406	6,262	11,668	5,640	6,814	12,454

COLORED TRAINING SCHOOL

ENROLLMENT IN 1915-1916.

Total enrollment during scholastic year	112
(Juniors, male 17, female 59. Seniors, male 6, female 30.)	
Net roll at close of scholastic year	105
(Juniors, male 17, female 57. Seniors, male 6, female 25.)	
Number withdrawn from service	6
Average number belonging during scholastic year	91
Average attendance for the scholastic year	88
Per cent of attendance for the year, based on the average number belonging	97
Number of graduates this scholastic year	27
(February, male 0, female 1. June, male 4, female 22.)	

TABLE 1.212.

Distribution of colored pupils in normal school by ages and classes. June 30, 1916.

Ages.	Junior.			Senior.			School.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Over 16 to 17	....	1	1	....	....	....	....	1	1
Over 17 to 18	....	2	2	....	....	....	....	2	2
Over 18 to 19	....	13	13	....	1	1	....	14	14
Over 19 to 20	3	10	13	....	6	6	3	16	19
Over 20 to 21	4	12	16	2	5	7	6	17	23
Over 21	10	19	29	4	13	17	14	32	46
Totals by classes.	17	57	74	6	25	31	23	82	105

TABLE 1.214.

Promotions and non-promotions, including graduation, of colored pupils in normal school, 1915-1916, by classes and sexes, with corresponding rates per cent.

	Junior.			Senior.			School.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Promoted	11	32	43	4	23	27	15	55	70
Not promoted	....	....	....	....	....	....	....	....	....
Totals by classes.	11	32	43	4	23	27	15	55	70
Per cent promoted.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Per cent not promoted	....	....	....	....	....	....	....	....	....

COLORED HIGH SCHOOL

TABLE SHOWING ENROLLMENT FOR THE YEAR 1915-1916.

	Boys.	Girls.	Total.
Number of new pupils admitted during year..	211	463	674
Number of pupils admitted by promotion (February, 1916)	41	73	114
Total number during the year	252	536	788
Number of pupils who left and re-entered during the year	...	...	434
Number of pupils withdrawn	...	...	553
Number of pupils promoted to Training School..	...	...	11
Number of pupils graduated	32	50	82
Academic	31	31	62
Two-year vocational course	1	19	20
Number of pupils in school June 23, 1916	231	477	708
Belonging	231	477	708
In care	...	...	788
Average attendance during year	...	...	585
Average belonging	...	...	621
Per cent of attendance	...	...	94

TABLE 1.222.

DISTRIBUTION OF PUPILS IN SECONDARY SCHOOL FOR COLORED PUPILS BY AGES AND GRADES, JUNE 30, 1916.

Showing also for each grade and for totals by ages the number of pupils under normal age, of normal age, and over normal age (retarded). Normal ages for each grade shown between the heavy horizontal lines in body of table.

Ages.	First year.			Second year.			Third year.			Fourth year.			Totals by ages.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
12-13	2	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	2
13-14	3	8	11	.....	1	1	.....	.....	.....	.....	.....	.....	3	9	12
14-15	18	36	54	2	8	10	.....	.....	.....	.....	.....	.....	20	44	64
15-16	34	65	99	6	23	29	1	7	8	.....	1	1	41	96	137
16-17	24	51	75	14	47	61	5	17	22	4	9	13	47	124	171
17-18	17	28	45	13	43	56	9	23	32	7	15	22	46	109	155
18-19	5	14	19	10	16	26	9	18	27	7	10	17	31	58	89
19-20	3	3	6	6	8	14	5	5	10	12	9	21	26	25	51
20-21	.....	.....	.....	.....	1	1	1	1	2	7	4	11	8	6	14
21-over	1	1	2	1	.....	1	.....	3	3	5	2	7	7	6	13
Totals by grades	107	206	313	52	147	199	30	74	104	42	50	92	231	477	708
Under normal age	5	8	13	2	9	11	1	7	8	4	10	14	12	34	46
Normal age	52	101	153	20	70	90	14	40	54	14	25	39	100	236	336
Over normal age	50	97	147	30	68	98	15	27	42	24	15	39	119	207	326

TABLE 1.2222.

DISTRIBUTION OF PUPILS IN SECONDARY SCHOOL FOR COLORED PUPILS BY YEARS IN SECONDARY SCHOOL AND GRADES, JUNE 30, 1916.

Showing also for each grade and for totals the number who have been in school less than normal time (accelerated), normal time, and more than normal time (repeating). Normal time shown between the heavy horizontal lines in body of table.

Years in School.	First year.			Second year.			Third year.			Fourth year.			Totals by years.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
0-½	35	76	111	.....	.....	.....	.....	.....	.....	.....	.....	.....	35	76	111
½-1	51	102	153	.....	.....	.....	.....	.....	.....	.....	.....	.....	51	102	153
1-2	18	25	43	42	81	123	.....	.....	.....	.....	.....	.....	60	106	166
2-3	2	3	5	5	50	55	3	31	34	.....	.....	.....	10	84	94
3-4	1	.....	1	5	15	20	25	39	64	10	42	52	41	96	137
4-5	.....	.....	.....	.....	1	1	2	4	6	29	7	36	31	12	43
5-6	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	3	3	.....	3
6-7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	1	1
Totals by grades	107	206	313	52	147	199	30	74	104	42	50	92	231	477	708
Less than normal	35	76	111	.....	.....	.....	.....	.....	.....	.....	.....	.....	35	76	111
Normal	51	102	153	42	81	123	3	31	34	10	42	52	106	256	362
More than normal	21	28	49	10	66	76	27	43	70	32	8	40	90	145	235

TABLE 1.223.

WITHDRAWALS BY AGES.

Distribution of pupils other than graduates in secondary school for colored pupils, permanently withdrawn from this system during the scholastic year ending June 30, 1916 (including summer vacation), by ages and grades.

Between Ages.	First year.			Second year.			Third year.			Fourth year.			Totals by ages.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
12-13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
13-14	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	1	1
14-15	4	2	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	2	6
15-16	14	13	27	2	4	6	.....	1	1	.....	.....	.....	16	18	34
16-17	5	24	29	3	10	13	.....	2	2	1	3	4	9	39	48
17-18	10	23	33	4	14	18	.....	4	4	7	11	18	21	52	73
18-19	5	11	16	6	12	18	1	4	5	7	8	15	19	35	54
19-20	1	2	3	5	5	10	1	3	4	13	8	21	20	18	38
20-21	.....	2	2	.....	1	1	2	.....	2	5	2	7	7	5	12
21-over	.....	.....	.....	.....	.....	.....	.....	1	1	3	2	5	3	3	6
Totals by grades	39	77	116	20	47	67	4	15	19	36	34	70	99	173	272
Under normal age	.....	.....	.....	.....	1	1	.....	1	1	1	3	4	1	5	6
Normal age	18	15	33	5	14	19	.....	6	6	14	19	33	37	54	91
Over normal age	21	62	83	15	32	47	4	8	12	21	12	33	61	114	175

TABLE 1.2232.

WITHDRAWALS BY CAUSES.

Distribution of pupils in secondary school for colored pupils permanently withdrawn from this system during the scholastic year ending June 30, 1916 (including summer vacation) by causes and grades.

Causes.	First year.			Second year.			Third year.			Fourth year.			Totals by causes.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
To go to work	1	7	8	1	4	5	1	.....	1	3	.....	3	6	11	17
Lack of success	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indifference	1	1	2	.....	.....	.....	1	.....	1	.....	.....	.....	2	1	3
Physical disability or death	.....	3	3	1	2	3	.....	.....	.....	.....	.....	.....	1	5	6
Left the city	3	3	6	.....	1	1	.....	.....	.....	.....	.....	.....	3	4	7
To private schools	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other causes and unknown	34	63	97	16	31	47	2	15	17	5	7	12	57	116	173
Graduated	.....	.....	.....	2	9	11	.....	.....	.....	28	27	55	30	36	66
Totals by grades	39	77	116	20	47	67	4	15	19	36	34	70	99	173	272

TABLE 1.2242.

Non-promotions by causes and grades in secondary school for colored pupils, June 30, 1916.

Causes.	First year.			Second year.			Third year.			Fourth year.			Totals by causes.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
Irregular attendance.....	18	53	71	14	15	29	5	7	12	5	1	6	42	76	118
Lack of preparation.....	10	6	16	.....	12	12	.....	.....	.....	.....	2	2	10	20	30
Personal illness	1	3	4	2	4	6	.....	2	2	.....	2	2	3	11	14
Indifference	2	11	13	8	8	16	2	7	9	2	.....	2	14	26	40
Low ability.....	5	7	12	1	2	3	2	5	7	.....	.....	.....	8	14	22
Other causes.....	4	15	19	6	8	14	2	3	5	1	4	5	13	30	43
Totals by grades...	40	95	135	31	49	80	11	24	35	8	9	17	90	177	267

TABLE 1.224.

Promotions and non-promotions of pupils in secondary school for colored pupils, 1915-1916, by grades and sexes, with corresponding rates per cent.

	First year.			Second year.			Third year.			Fourth year.			Totals by promotions and non-promotions.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
Promoted	37	65	102	23	115	138	22	52	74	39	54	93	121	286	407
Not promoted	40	95	135	31	49	80	11	24	35	8	9	17	90	177	267
Totals by grades	77	160	237	54	164	218	33	76	109	47	63	110	211	463	674
Per cent promoted	48.1	40.6	43.0	42.6	70.1	63.3	66.7	68.4	67.9	83.0	85.7	84.6	57.3	61.8	60.4
Per cent not promoted	51.9	59.4	57.0	57.4	29.9	36.7	33.3	31.6	32.1	17.0	14.3	15.4	42.7	38.2	39.6

TABLE

ACCOMPLISHMENTS AND FAILURES BY STUDIES AND GRADES IN

Number of pupils accomplishing the required work in the sev taking each study—not including pupils admitted from

Year of Subject.	First year.			Second year.		
Subjects.	Accomplishments.	Failures.	Totals.	Accomplishments.	Failures.	Totals.
English, composition, rhetoric, literature, grammar	287	106	393	229	137	366
German	96	45	141	61	27	88
Latin	147	98	245	102	111	213
History	152	64	216	.....	.....	.....
Political economy	.....	.....	.....	36	9	45
Algebra	362	124	486	.....	.....	.....
Geometry	.....	.....	.....	191	151	342
Machine practice	.....	.....	.....	32	5	37
Mechanical drawing	89	30	119	51	13	64
Freehand drawing	262	69	331	243	57	300
Physics	.....	.....	.....	1	2	3
Physiology	64	22	86	.....	.....	.....
Biology	.....	.....	.....	111	10	121
Zoology	.....	.....	.....	121	34	155
Botany	.....	.....	.....	12	3	15
Physical geography	49	20	69	.....	.....	.....
Bookkeeping	13	3	16	35	7	42
Commercial arithmetic	8	12	20	.....	.....	.....
Commercial geography	.....	.....	.....	.....	.....	.....
History of commerce	12	8	20	.....	.....	.....
Commercial law	.....	.....	.....	.....	.....	.....
Stenography	1	.....	1	6	5	11
Typewriting	.....	.....	.....	.....	.....	.....
Benchwork	78	47	125	2	.....	2
Woodturning	4	6	10	43	16	59
Printing	1	.....	1	.....	2	2
Cookery and housekeeping	174	92	266	161	38	199
Sewing and dressmaking	161	111	272	153	84	237
Physical training	268	43	311	174	45	219
Totals	2,228	900	3,128	1,764	756	2,520
Rates per cent	71.2	28.8	100.0	70.0	30.0	100.0

1.2243.

SECONDARY SCHOOLS FOR COLORED PUPILS, JUNE 30, 1916.

eral studies; the number failing to do so; and the number the elementary grades in February of this scholastic year.

Third year.			Fourth year.			Totals.			Per cent of accomplishment.
Accomplishments.	Failures.	Totals.	Accomplishments.	Failures.	Totals.	Accomplishments.	Failures.	Totals.	
154	49	203	121	42	163	791	334	1,125	70.3
122	22	144	71	10	81	350	104	454	77.1
12	2	14	.....	.....	.....	261	211	472	55.3
163	42	205	121	9	130	436	115	551	79.1
.....	.....	.....	17	1	18	53	10	63	84.1
.....	.....	.....	.....	.....	.....	362	124	486	74.5
.....	.....	.....	.....	.....	.....	191	151	342	55.8
28	1	29	4	.....	4	64	6	70	91.4
.....	.....	.....	.....	.....	.....	140	43	183	76.5
8	.....	8	3	.....	3	516	126	642	80.4
140	39	179	10	5	15	151	46	197	76.6
.....	.....	.....	.....	.....	.....	64	22	86	74.4
18	1	19	108	3	111	237	14	251	94.4
.....	.....	.....	.....	.....	.....	121	34	155	78.1
.....	.....	.....	.....	.....	.....	12	3	15	80.0
.....	.....	.....	.....	.....	.....	49	20	69	71.0
33	16	49	26	4	30	107	30	137	78.1
.....	.....	.....	1	.....	1	9	12	21	42.9
.....	.....	.....	4	1	5	4	1	5	80.0
.....	.....	.....	3	.....	3	15	8	23	65.2
.....	.....	.....	3	.....	3	3	.....	3	100.0
2	4	6	7	1	8	16	10	26	61.5
123	42	165	56	7	63	179	49	228	78.5
.....	.....	.....	.....	.....	.....	80	47	127	63.0
6	1	7	11	.....	11	64	23	87	73.6
30	4	34	26	2	28	57	8	65	87.7
108	25	133	.....	.....	.....	443	155	598	74.1
94	33	127	.....	.....	.....	408	228	636	64.1
50	13	63	109	7	116	601	108	709	84.8
1,091	294	1,385	701	92	793	5,784	2,042	7,826	.....
78.8	21.2	100.0	88.4	11.6	100.0	73.9	26.1	100.0	.....

TABLE 1.225.

ATTENDANCE.

Distribution of attendance in secondary school for colored pupils by number of days and grades, June 30, 1916.

Time Attending.	First year.			Second year.			Third year.			Fourth year.			Totals by time.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
Entire year (182 days)...	10	30	40	8	27	35	1	11	12	10	9	19	29	77	106
At least 180 days.....	44	57	101	15	42	57	12	22	34	11	16	27	82	137	219
160 to 179 days.....	17	59	76	21	42	63	11	30	41	17	13	30	66	144	210
140 to 159 days.....	11	16	27	3	12	15	7	6	13	2	4	6	23	38	61
120 to 139 days.....	5	13	18	2	10	12	.....	.....	.....	2	1	3	9	24	33
100 to 119 days.....	6	10	16	.....	11	11	.....	.....	.....	.....	1	1	6	22	28
80 to 99 days.....	7	14	21	2	7	9	.....	2	2	3	13	16	12	36	48
60 to 79 days.....	4	12	16	1	5	6	.....	1	1	.....	1	1	5	19	24
40 to 59 days.....	4	10	14	.....	1	1	.....	.....	.....	.....	.....	.....	4	11	15
20 to 39 days.....	3	5	8	1	3	4	2	2	4	1	2	3	7	12	19
Less than 20 days.....	4	10	14	1	4	5	.....	2	2	1	3	4	6	19	25
Totals by grades...	115	236	351	54	164	218	33	76	109	47	63	110	249	539	788

Includes 2 boys and 14 girls who were graduated in February; 2 boys and nine girls in fourth year, 5 girls in second year.

TABLE 1.242.

GRADE—AGE.

Distribution of colored pupils in elementary schools by ages and grades, June 30, 1916. Showing also for each grade and for totals by ages the number of pupils under normal age, of normal age and over normal age (retarded). Normal ages for each grade shown between the heavy horizontal lines in body of table.

Ages.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by ages.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
4- 5	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
5- 6	8	14	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	14	22
6- 7	203	269	472	2	7	9	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	206	276	482
7- 8	316	349	665	67	119	186	7	5	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	390	473	863
8- 9	303	233	536	213	283	496	51	82	133	3	3	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	570	601	1,171
9-10	153	97	250	238	263	501	135	184	319	37	94	131	7	10	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	570	648	1,218
10-11	89	82	171	193	203	396	174	190	364	112	153	265	47	53	100	7	7	14	.....	2	2	.....	.....	.....	622	690	1,312
11-12	49	22	71	139	128	267	155	173	328	125	168	293	74	144	218	12	36	48	4	9	13	1	.....	1	559	680	1,239
12-13	21	15	36	95	74	169	143	115	258	118	146	264	106	148	254	50	88	138	25	46	71	4	11	15	562	643	1,205
13-14	13	9	22	51	41	92	92	69	161	103	126	229	88	123	211	60	95	155	35	77	112	17	42	59	459	582	1,041
14-15	4	3	7	30	19	49	52	37	89	70	68	138	84	59	143	45	80	125	37	64	101	27	51	78	349	381	730
15-16	.....	2	2	13	14	27	21	9	30	30	18	48	42	24	66	32	54	86	35	66	101	23	50	73	196	237	433
16-17	.....	.....	.....	.....	2	2	8	3	11	3	5	8	10	2	12	8	11	19	9	31	40	16	37	53	54	91	145
17-18	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	2	1	3	2	4	6	4	10	14	9	15	24
18-19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	1	.....	1	.....	.....	.....	2	.....	2	1	3	4	4	4	8
19-20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	1	1
20-21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals by grades	1,160	1,095	2,255	1,041	1,153	2,194	840	867	1,707	601	782	1,383	459	563	1,022	216	372	588	149	299	448	93	205	298	4,559	5,336	9,895
Under normal age	9	14	23	2	7	9	8	5	13	3	3	6	7	10	17	7	7	14	4	11	15	5	11	16	45	68	113
Normal age	519	618	1,137	280	402	682	186	266	452	149	247	396	121	197	318	62	124	186	60	123	183	44	93	137	1,421	2,070	3,491
Over normal age	632	463	1,095	759	744	1,503	646	596	1,242	449	532	981	331	356	687	147	241	388	85	165	250	44	101	145	3,093	3,198	6,291

TABLE 1.2422.

GRADE—TIME.

Distribution of colored pupils in elementary schools by years in school and grades, June 30, 1916. Showing also for each grade and for totals the number who have been in schools less than normal time (accelerated), normal time, and more than normal time (repeating). Normal time shown between the heavy horizontal lines in body of table.

Years in School.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by years.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
0- 1	458	437	895	13	15	28	4	.....	4	1	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	476	453	929
1- 2	417	474	891	168	267	435	7	7	14	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	592	749	1,341
2- 3	165	113	278	359	413	772	86	156	242	8	11	19	1	1	2	.....	1	1	.....	.....	.....	.....	.....	.....	619	695	1,314
3- 4	84	52	136	262	269	531	255	326	581	53	120	173	9	11	20	1	4	5	.....	.....	.....	.....	.....	.....	664	782	1,446
4- 5	26	14	40	139	122	261	261	195	456	179	297	476	68	110	178	7	14	21	.....	4	4	.....	.....	.....	680	756	1,436
5- 6	9	4	13	84	59	143	147	134	281	228	235	463	165	233	398	52	91	143	8	18	26	2	2	4	695	776	1,471
6- 7	1	.....	1	12	5	17	59	40	99	89	78	167	121	138	259	77	161	238	48	115	163	9	9	18	416	546	962
7- 8	.....	1	1	4	3	7	19	9	28	30	35	65	62	57	119	51	69	120	44	79	123	38	75	113	248	328	576
8- 9	.....	.....	.....	.....	.....	.....	2	.....	2	9	3	12	24	12	36	21	25	46	33	58	91	10	60	70	99	158	257
9-10	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1	3	7	1	8	6	6	12	12	18	30	26	38	64	53	64	117
10-11	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1	3	2	.....	2	1	.....	1	3	6	9	5	14	19	13	21	34
11-12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2	3	5	8	4	6	10
12-13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2	.....	2	2
Totals by grades	1,160	1,095	2,255	1,041	1,153	2,194	840	867	1,707	601	782	1,383	459	563	1,022	216	372	588	149	299	448	93	205	298	4,559	5,336	9,895
Less than normal	.....	.....	.....	13	15	28	11	7	18	9	12	21	10	12	22	8	20	28	8	22	30	11	11	22	70	99	169
Normal	458	437	895	168	267	435	86	156	242	53	120	173	68	110	178	52	91	143	48	115	163	38	75	113	971	1,371	2,342
More than normal	702	658	1,360	860	871	1,731	743	704	1,447	539	650	1,189	381	441	822	156	261	417	93	162	255	44	119	163	3,518	3,866	7,384

TABLE 1.243.

WITHDRAWALS BY AGES.

Distribution of colored pupils in elementary schools permanently withdrawn from this system during the scholastic year ending June 30, 1916 (including summer vacation) by ages and grades.

Between Ages.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by ages.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
5- 7	56	55	111	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	56	56	112
7- 8	55	45	100	9	15	24	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	65	60	125
8- 9	34	38	72	15	20	35	3	5	8	1	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	53	64	117
9-10	26	23	49	19	24	43	12	14	26	3	4	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	60	65	125
10-11	14	19	33	22	18	40	11	20	31	10	6	16	5	6	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	62	69	131
11-12	12	12	24	17	12	29	14	13	27	15	14	29	2	12	14	3	2	5	.....	.....	.....	.....	.....	.....	63	65	128
12-13	5	6	11	15	20	35	23	14	37	27	32	59	8	19	27	3	8	11	1	1	2	.....	3	3	82	103	185
13-14	9	6	15	5	7	12	18	16	34	21	30	51	13	22	35	9	17	26	2	7	9	5	5	10	82	110	192
14-15	6	1	7	22	13	35	28	17	45	30	40	70	32	43	75	31	50	81	23	30	53	11	16	27	183	210	393
15-16	3	2	5	8	3	11	20	10	30	29	24	53	45	43	88	34	32	66	23	27	50	16	24	40	178	165	343
16-17	.....	1	1	5	2	7	14	11	25	9	8	17	24	22	46	28	14	42	10	21	31	15	14	29	105	93	198
17-18	1	.....	1	1	2	3	.....	.....	.....	4	.....	4	5	2	7	5	3	8	9	4	13	5	8	13	30	19	49
18-19	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	2	.....	2	1	.....	1	1	1	2	1	.....	1	6	1	7
19-20	.....	.....	.....	1	.....	1	.....	.....	.....	1	1	2	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	3	1	4
20-21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals by grades	221	208	429	139	137	276	145	120	265	150	160	310	136	169	305	114	126	240	70	91	161	53	70	123	1,028	1,081	2,109
Under normal age	.....	.....	.....	.....	1	1	1	.....	1	1	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	3	2	5	7
Normal age	111	100	211	24	35	59	15	19	34	13	10	23	7	18	25	6	10	16	3	8	11	16	21	37	195	221	416
Over normal age	110	108	218	115	101	216	129	101	230	136	149	285	129	151	280	108	116	224	67	83	150	37	46	83	831	855	1,686

TABLE 1.2432.

WITHDRAWALS BY CAUSES.

Distribution of colored pupils in elementary schools permanently withdrawn from this system during the scholastic year ending June 30, 1916 (including summer vacation) by causes and grades.

Causes.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by Causes.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
To go to work	7	5	12	20	16	36	43	35	78	52	66	118	80	76	156	84	65	149	45	55	100	40	48	88	371	366	737
Lack of success	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Indifference	3	....	3	....	....	....	....	1	1	....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	4	1	5
Physical disability or death	31	34	65	12	16	28	7	12	19	3	11	14	6	12	18	....	5	5	....	2	2	....	3	3	59	95	154
Left the city	83	98	181	73	79	152	78	59	137	53	47	100	19	45	64	6	16	22	6	7	13	4	10	14	322	361	683
To private schools	7	5	12	9	6	15	5	3	8	6	5	11	4	3	7	....	6	6	....	4	4	....	1	1	31	33	64
Other causes	90	66	156	25	20	45	12	10	22	36	31	67	27	33	60	23	34	57	19	23	42	9	8	17	241	225	466
Totals by grades	221	208	429	139	137	276	145	120	265	150	160	310	136	169	305	114	126	240	70	91	161	53	70	123	1,028	1,081	2,109

TABLE 1.244.

PROMOTIONS.

Promotions of colored pupils, normal and repeating, in elementary schools.

Promotions.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by promotions.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
In grade first time....	285	365	650	341	440	781	294	372	666	236	306	542	168	303	471	107	196	303	101	214	315	58	151	209	1,590	2,347	3,937
In grade second time or longer.....	252	289	541	276	297	573	179	226	405	126	138	264	74	84	158	35	51	86	21	24	45	10	23	33	973	1,132	2,105
Totals by grades....	537	654	1,191	617	737	1,354	473	598	1,071	362	444	806	242	387	629	142	247	389	122	238	360	68	174	242	2,563	3,479	6,042

TABLE 1.244b.

NON-PROMOTIONS.

Non-promotions of colored pupils, by grades, in elementary schools.

Non-promotions.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by non-promotions.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
In grade first time....	294	296	590	205	175	380	156	130	286	93	105	198	90	98	188	23	65	88	19	27	46	15	17	32	895	913	1,808
In grade second time or longer.....	272	190	462	250	153	403	212	177	389	128	130	258	72	48	120	20	21	41	13	20	33	3	3	6	970	742	1,712
Totals by grades....	566	486	1,052	455	328	783	368	307	675	221	235	456	162	146	308	43	86	129	32	47	79	18	20	38	1,865	1,655	3,520

TABLE 1.2442.

NON-PROMOTIONS.

Non-promotions by causes and grades in colored elementary schools.

Causes.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by causes.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
Irregular attendance...	292	245	537	169	149	318	165	110	275	94	104	198	81	65	146	13	31	44	14	24	38	1	9	10	829	737	1,565
Late entrance or early leaving	32	23	55	14	13	27	37	23	60	8	4	12	7	4	11	2	1	3	....	....	....	2	....	2	102	68	170
Personal illness.....	54	60	114	24	15	39	6	18	24	8	7	15	2	5	7	....	5	5	....	1	1	....	....	....	94	111	205
Physical defects.....	22	10	32	13	2	15	8	7	15	1	3	4	13	14	27	2	2	4	....	....	....	....	....	....	59	38	97
Indifference	55	45	100	135	59	194	108	68	176	82	71	153	46	21	67	23	36	59	16	17	33	12	7	19	477	324	801
Low ability.....	111	103	214	100	90	190	44	81	125	28	46	74	13	37	50	3	11	14	2	5	7	3	4	7	304	377	681
Totals by grades....	566	486	1,052	455	328	783	368	307	675	221	235	456	162	146	308	43	86	129	32	47	79	18	20	38	1,865	1,655	3,520

TABLE 1.2443.

NON-PROMOTIONS—FAILURES BY STUDIES.

Failures by studies and grades in colored elementary schools.

Failures by Studies.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by failures.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
Number of pupils failing	566	486	1,052	455	328	783	368	307	675	221	235	456	162	146	308	43	86	129	32	47	79	18	20	38	1,865	1,655	3,520
Reading	513	377	890	285	135	420	226	176	402	96	58	154	56	38	94	9	22	31	11	11	22	4	4	8	1,200	821	2,021
Spelling	18	15	33	112	70	182	173	153	326	130	74	204	78	60	138	29	37	66	16	19	35	9	13	22	565	441	1,006
Composition	....	....	....	17	13	30	29	25	54	81	65	146	64	46	110	28	42	70	20	28	48	14	12	26	253	231	484
Language and grammar	14	13	27	75	60	135	134	108	242	79	87	166	111	99	210	26	41	67	24	29	53	9	13	22	472	450	922
Arithmetic and algebra	230	203	433	164	180	344	264	216	480	133	186	319	151	116	267	40	92	132	21	32	53	17	17	34	1,020	1,042	2,062
History	....	....	....	....	....	....	4	5	9	40	37	77	43	40	83	16	28	44	13	23	36	4	10	14	120	143	263
Geography	....	....	....	....	....	....	4	5	9	39	43	82	32	40	72	22	37	59	11	20	31	5	11	16	113	156	269
Totals by grades	775	608	1,383	653	458	1,111	834	688	1,522	598	550	1,148	535	439	974	170	299	469	116	162	278	62	86	142	3,743	3,284	7,027

TABLE 1.245.

ATTENDANCE.

Distribution of attendance in colored elementary schools by number of days and grades, June 30, 1916.

Time Attending.	First grade.			Second grade.			Third grade.			Fourth grade.			Fifth grade.			Sixth grade.			Seventh grade.			Eighth grade.			Totals by time.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
Entire year.....	17	8	25	17	26	43	3	5	8	2	4	6	10	8	18	2	12	14	6	12	18	4	15	19	61	90	151
At least 180 days...	52	58	110	151	152	303	110	133	243	109	152	261	104	121	225	89	127	216	57	120	177	49	79	128	721	942	1,663
From 160 to 179 days.	199	203	402	239	314	553	244	286	530	183	247	430	138	209	347	63	111	174	41	75	116	19	61	80	1,126	1,506	2,632
From 140 to 159 days.	191	204	395	205	248	453	166	159	325	112	146	258	95	96	191	33	52	85	11	37	48	11	24	35	824	966	1,790
From 120 to 139 days.	203	180	383	148	169	317	117	100	217	82	100	182	50	57	107	19	33	52	18	17	35	5	15	20	642	671	1,313
From 100 to 119 days.	129	146	275	113	108	221	66	84	150	55	51	106	36	29	65	12	32	44	12	15	27	5	9	14	428	474	902
From 80 to 99 days..	156	149	305	71	79	150	72	65	137	35	45	80	23	43	66	15	14	29	6	19	25	7	16	23	385	430	815
From 60 to 79 days..	134	106	240	67	54	121	37	41	78	28	32	60	13	30	43	9	13	22	11	10	21	5	5	10	304	291	595
From 40 to 59 days..	92	88	180	42	42	84	37	28	65	33	24	57	16	29	45	10	14	24	5	14	19	4	6	10	239	245	484
From 20 to 39 days..	93	69	162	51	31	82	35	23	58	24	28	52	16	15	31	8	8	16	4	10	14	1	1	2	232	185	417
Less than 20 days...	80	66	146	39	30	69	40	31	71	31	49	80	31	42	73	18	21	39	14	16	30	4	8	12	257	263	520
Totals by grades...	1,346	1,277	2,623	1,143	1,253	2,396	927	955	1,882	694	878	1,572	532	679	1,211	278	437	715	185	345	530	114	239	353	5,219	6,063	11,282

RELATED ACTIVITIES

TABLE 1.13.

PREPARATORY CLASSES, 1915-1916.

Preparatory Classes.	Number of classes.	Number of teachers.	Average number of pupils belonging.
School No. 1	8	8	176
School No. 49	10	10	281
School No. 52	5	5	128
Totals	23	23	585

TABLE 1.044M.

MANUAL TRAINING CENTERS, 1915-1916.

Located at School.	Schools accommodated.	Grade and number of pupils.								
		First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Totals
No. 2	2, 42, 93	.....	.....	.....	.....	.....	52	131	63	246
No. 7	40, 43, 71, 93	.....	.....	.....	.....	.....	80	80	62	222
No. 9	1, 9, 75, 95	.....	.....	.....	.....	.....	.....	154	96	250
No. 22	10, 22, 72	.....	.....	.....	.....	14	16	57	33	120
No. 27	6, 13, 27, 71, 77	.....	.....	.....	.....	.....	78	153	52	283
No. 45	32, 45, 80	.....	.....	.....	.....	.....	33	56	14	103
No. 47	47	.....	.....	.....	.....	42	122	52	24	240
No. 51	50, 51	.....	.....	.....	.....	.....	76	38	28	142
No. 58	55, 57, 58	.....	.....	.....	.....	88	50	32	22	192
No. 59	59	.....	.....	.....	.....	.....	23	21	12	56
No. 60	60	.....	.....	.....	.....	.....	35	27	39	101
No. 63	62, 63, 65	.....	.....	.....	.....	.....	44	126	85	255
No. 64	64	.....	.....	.....	.....	.....	52	25	32	109
No. 67	66	.....	.....	.....	.....	.....	18	20	9	47
No. 70	70, 84, 92	.....	.....	.....	.....	.....	.....	96	103	199
No. 74	52, 54, 74, 80	.....	.....	.....	.....	.....	.....	174	89	263
No. 76	76	.....	15	.....	77	36	34	17	9	188
No. 79	14, 32, 39, 49, 61, 79	.....	.....	.....	.....	.....	11	139	104	254
No. 81	11, 21, 39, 89	.....	.....	.....	.....	.....	.....	68	53	121
No. 83	83	.....	.....	.....	.....	15	90	56	28	189
No. 86	48, 78, 86	.....	.....	.....	.....	.....	157	39	32	228
No. 98	30, 48, 68, 98	.....	.....	.....	.....	.....	10	121	43	174
No. 99	80, 85, 94, 99	.....	.....	.....	.....	.....	48	124	91	263
No. 106	106, 109	.....	.....	.....	93	63	38	22	10	226
No. 107	100, 107, 116, 118	.....	.....	71	81	112	.....	.....	10	274
No. 108	101, 105, 108	.....	.....	.....	.....	81	63	36	18	198
No. 112	103, 112	.....	.....	46	76	27	25	31	25	230
No. 113	113, 115	.....	.....	7	29	47	29	22	8	142
Colored High	103, 110, 116, 118	.....	.....	.....	.....	37	56	52	20	165

TABLE 1.044C.

COOKERY CENTERS, 1915-1916.

Located at School.	Schools accommodated.	Grade and number of pupils.								
		First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Totals.
No. 2	2, 42, 93						46	129	64	239
No. 7	40, 43, 71, 93						154	77	69	300
No. 22	10, 22, 72					20	38	53	32	143
No. 27	6, 13, 27, 71, 77						98	115	30	243
No. 45	32, 45, 80						39	42	17	98
No. 47	47						129	42	38	209
No. 51	50, 51						86	62	50	198
No. 58	57, 58					27	44	7	13	91
No. 59	59						24	14	15	53
No. 60	60						27	39	39	105
No. 63	62, 63, 65						54	102	68	224
No. 64	64						55	36	35	126
No. 67	66						15	17	11	43
No. 70	70, 84, 92							115	99	214
No. 74	52, 53, 54, 74, 80						19	165	38	222
No. 75	1, 75, 95							150	52	202
No. 76	76				76	49	13	28	10	176
No. 79	14, 39, 49, 79							230	30	260
No. 81	11, 21, 39, 81							79	63	142
No. 83	83					19	93	48	25	185
No. 85	85, 94, 99						49	135	28	212
No. 86	48, 78, 86						186	62	31	279
No. 98	30, 48, 68, 98						9	133	47	189
No. 106	106, 109, 109 Branch				73	80	82	53	48	336
No. 107	100, 116, 118						66	79	53	198
No. 108	101, 105, 108					59	69	66	42	236
No. 112	103, 112					78	126	57	51	312
No. 113	113, 115				27	70	23	35	42	197

TABLE 1.044K.

KINDERGARTENS, 1915-1916.

Schools.	Number of classes.	Number of teachers.	Number of assistants.	Number of pupils belonging, June 30, 1916.	Average number belonging for the year 1915-1916.	Average attendance for the year 1915-1916.	Per cent of attendance for the year 1915-1916.	Total enrollment for the year 1915-1916.			Number belonging, including temporary withdrawals, June 30, 1916.
								Boys.	Girls.	Totals.	
White schools:											
No. 2	1	1	1	33	45	35	78	32	29	61	54
No. 3	1	1	1	28	36	30	83	37	25	62	42
No. 4	1	1	1	43	40	36	90	28	19	47	46
No. 5	1	1	1	35	38	31	82	27	37	64	43
No. 9	1	1	1	43	41	34	83	32	22	54	43
No. 11	1	1	1	37	57	30	53	26	29	55	37
No. 16	1	1	1	42	37	31	84	22	33	55	42
No. 19	1	1	1	59	48	32	67	33	27	60	59
No. 20	1	1	1	27	29	24	83	26	21	47	42
No. 23	1	1	1	33	40	33	83	42	25	67	45
No. 24	1	1	1	32	36	27	75	38	40	78	41
No. 25	1	1	1	32	37	33	89	23	22	45	43
No. 31	1	1	1	26	25	20	80	25	21	46	43
No. 33	1	1	1	34	33	28	85	22	28	50	40
No. 43	1	1	1	41	42	34	81	31	21	52	48
No. 53	1	1	1	64	55	45	82	48	38	86	64
No. 55	1	1	1	41	36	30	83	27	30	57	41
No. 76	1	1	1	38	45	42	93	32	24	56	41
No. 79	1	1	1	26	19	17	89	22	17	39	26
No. 93	1	1	1	44	36	32	89	21	25	46	46
Totals	20	20	20	758	775	624	81	594	533	1,127	886
Colored schools:											
No. 100	1	1	1	60	44	38	86	29	39	68	60
No. 106	1	1	1	35	34	28	82	29	30	59	46
No. 112	1	1	2	74	66	52	79	51	56	107	86
Totals	3	3	4	169	144	118	82	109	125	234	192
Grand totals	23	23	24	927	919	742	81	703	658	1,361	1,078

TABLE 1.044S.

UNGRADED CLASSES, 1915-1916.

Schools.	Number of classes.	Number of teachers.	Number of pupils belonging, June 30, 1916.	Average number belonging for the year 1915-1916.	Average attendance for the year 1915-1916.	Per cent of attendance for the year 1915-1916.	Total enrollment for the year 1915-1916.			Number belonging, including temporary withdrawals. June 30, 1916.
							Boys.	Girls.	Totals.	
White schools:										
No. 3	1	1	12	15	13	87	18	.....	18	18
No. 9	1	1	6	14	9	64	36	.....	36	6
No. 14	1	1	13	11	10	91	20	.....	20	13
No. 22	1	1	21	14	11	79	34	.....	34	21
No. 25	1	1	12	21	19	90	30	8	38	29
No. 29	1	1	10	14	12	86	25	.....	25	16
No. 31	1	1	14	14	12	86	24	.....	24	15
No. 35	1	1	8	10	9	90	20	.....	20	8
No. 42	1	1	13	14	12	86	29	.....	29	16
No. 48	1	1	18	13	11	85	33	.....	33	18
No. 54	1	1	19	15	11	73	19	2	21	19
No. 58	1	1	9	8	6	75	18	.....	18	11
No. 71	1	1	18	15	14	93	32	.....	32	19
No. 81	1	1	12	14	11	78	26	.....	26	16
No. 83	1	1	10	12	11	92	26	.....	26	13
No. 93	1	1	9	13	11	84	22	.....	22	10
No. 98	1	1	15	12	10	83	31	.....	31	15
[1]No. 20	1	1	13	15	14	93	10	11	21	17
[1]No. 22	1	1	20	16	14	88	12	11	23	23
[1]Kernan's Hospital	1	1	10	13	12	92	16	15	31	10
[1]Children's Hospital	1	1	12	10	9	90	33	17	50	12
[2]No. 6	1	1	20	21	20	95	20	20	40	24
[2]No. 22	1	1	21	25	23	92	12	29	41	25
[2]No. 76	1	1	19	23	22	96	17	24	41	21
[3]No. 7	1	1	14	13	11	85	24	.....	24	14
[4]No. 10	1	1	13	12	10	83	6	9	15	13
[4]No. 21	1	1	13	12	10	83	10	7	17	13

[4]No. 76	1	1	10	12	11	92	14	7	21	14
[4]No. 77	1	1	25	23	22	96	18	11	29	25
[5]No. 4	1	1	24	24	22	92	14	12	26	25
[5]No. 76	1	1	17	22	22	100	35	.....	35	22
Totals	31	31	450	470	414	88	684	183	867	521
Colored schools:										
No. 109	1	1	15	13	12	85	23	4	27	16
No. 112	1	1	7	14	10	71	19	13	32	17
[1]Hopkins Hospital	1	1	15	14	13	93	11	11	22	15
Totals	3	3	37	41	35	85	53	28	81	48
Grand totals	34	34	487	511	449	88	737	211	948	569

[1]Classes for crippled children.
[2]Open-air classes for anæmic children.
[3]School for the study and observation of mentally subnormal children.
[4]Classes made up of mentally subnormal pupils.
[5]Classes made up of certain children requiring special help.

NIGHT

TABLE

Showing net enrollment by departments and ages of

Ages—Years.	English to foreigners.		Elementary.	
	M.	F.	M.	F.
White Schools.				
Over 14 to 16	3	12	237	176
Over 16 to 18	60	87	152	101
Over 18 to 21	185	203	130	66
Over 21 to 25	220	46	46	46
Over 25 to 30	91	35	54	6
Over 30	99	18	19	3
Totals of details	658	401	638	398
Totals by sex	658	401	638	398
Totals by departments	1,059		1,036	
Per cent by departments	20.6		20.1	
Colored Schools.				
Over 14 to 16	.....	.....	78	105
Over 16 to 18	.....	.....	84	126
Over 18 to 21	.....	.....	65	95
Over 21 to 25	.....	.....	63	77
Over 25 to 30	.....	.....	78	115
Over 30	.....	.....	157	221
Totals by sex	.....	.....	525	739
Totals by departments	.....		1,264	
Per cent by departments	.....		67.2	
All Schools.				
Totals by sex	658	401	1,163	1,137
Totals by departments	1,059		2,300	
Per cent by departments	15.1		32.7	

SCHOOLS

2.002.

pupils in night schools during the term of 1915-1916.

Vocational.				Secondary.		Totals by sex.		Totals.	Per cent by ages.
Various.		Cookery.							
M.	F.	M.	F.	M.	F.	M.	F.		
153	.....	.....	225	267	182	660	595	1,255	24.4
144	.....	.....	93	383	203	739	484	1,223	23.7
100	.....	.....	43	286	193	701	505	1,206	23.4
33	.....	.....	71	178	120	477	283	760	14.8
11	.....	.....	57	107	62	263	160	423	08.2
9	.....	.....	55	56	25	183	101	284	05.5
450	.....	.....	544	1,277	785	3,023	2,128	5,151	100.0
450	.....	.....	544	1,277	785	3,023	2,128	.....	.....
994				2,062		5,151		5,151	.....
19.3				40.0		.....		.....	100.0
29	20	.....	.....	2	4	109	129	238	12.6
33	43	.....	.....	5	28	122	197	319	17.0
12	85	.....	.....	8	17	85	197	282	15.0
16	70	.....	.....	9	9	88	156	244	13.0
15	66	.....	.....	6	4	99	185	284	15.1
20	103	.....	.....	9	3	186	327	513	27.3
125	387	.....	.....	39	65	689	1,191	.....	.....
512				104		1,880		1,880	.....
27.3				5.5		.....		.....	100.0
575	931	.....	.....	1,316	850	3,712	3,319	.....	.....
1,506				2,166		.....		7,031	.....
21.4				30.8		.....		.....	100.0

TABLE 2.00a.

Showing the subjects taught in night schools during the term 1915-1916, the number of pupils taking each subject, the number accomplishing the unit of work undertaken, and the rates per cent of accomplishment by subjects and departments.

Departments.	English to foreigners.			Elementary.			Vocational.			Secondary.			All departments.		
Subjects.	Number taking.	Number accomplishing.	Per cent of accomplishment.	Number taking.	Number accomplishing.	Per cent of accomplishment.	Number taking.	Number accomplishing.	Per cent of accomplishment.	Number taking.	Number accomplishing.	Per cent of accomplishment.	Number taking.	Number accomplishing.	Per cent of accomplishment.
White Schools.															
English, special	1,057	520	49.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
English, elementary	.....	.....	.....	982	453	46.1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arithmetic	.....	.....	.....	1,432	623	43.5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Geography	.....	.....	.....	691	441	63.8	.....	.....	.....	.....	.....	.....	.....	.....	.....
History and civics	.....	.....	.....	1,695	1,034	61.0	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hygiene	.....	.....	.....	216	99	45.8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Business practice	.....	.....	.....	.....	.....	.....	.....	.....	.....	87	56	64.4	.....	.....	.....
Advanced mathematics	.....	.....	.....	.....	.....	.....	.....	.....	.....	142	41	28.9	.....	.....	.....
Bookkeeping	.....	.....	.....	.....	.....	.....	.....	.....	.....	515	226	43.9	.....	.....	.....
Commercial arithmetic	.....	.....	.....	.....	.....	.....	.....	.....	.....	314	119	37.9	.....	.....	.....
Commercial law	.....	.....	.....	.....	.....	.....	.....	.....	.....	338	131	38.8	.....	.....	.....
Stenography	.....	.....	.....	.....	.....	.....	.....	.....	.....	935	270	28.9	.....	.....	.....
Typewriting	.....	.....	.....	.....	.....	.....	.....	.....	.....	935	270	28.9	.....	.....	.....
English	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,234	369	21.8	.....	.....	.....

Spanish	.....	.....	.....	.....	.....	.....	.....	.....	.....	142	65	45.8	.....	.....	.....
Chemistry	.....	.....	.....	.....	.....	.....	.....	.....	.....	64	33	51.6	.....	.....	.....
Electricity	.....	.....	.....	.....	.....	.....	.....	.....	.....	115	65	47.8	.....	.....	.....
Printing	.....	.....	.....	.....	.....	.....	52	18	34.6	.....	.....	.....	.....	.....	.....
Woodworking	.....	.....	.....	.....	.....	.....	84	46	54.8	.....	.....	.....	.....	.....	.....
Freehand drawing	.....	.....	.....	.....	.....	.....	8	1	12.5	.....	.....	.....	.....	.....	.....
Mechanical drawing	.....	.....	.....	.....	.....	.....	219	86	39.3	.....	.....	.....	.....	.....	.....
Architectural drawing	.....	.....	.....	.....	.....	.....	88	32	36.4	.....	.....	.....	.....	.....	.....
Cookery	.....	.....	.....	.....	.....	.....	544	351	64.5	.....	.....	.....	.....	.....	.....
Totals	1,057	520	49.2	5,016	2,650	52.8	995	534	53.7	4,821	1,635	33.9	11,889	5,339	44.9
Colored Schools.															
English, elementary	.....	.....	.....	1,269	601	47.4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arithmetic	.....	.....	.....	1,286	513	39.9	.....	.....	.....	.....	.....	.....	.....	.....	.....
Geography	.....	.....	.....	371	177	47.7	.....	.....	.....	.....	.....	.....	.....	.....	.....
History and civics	.....	.....	.....	592	276	46.6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hygiene	.....	.....	.....	257	159	61.9	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stenography	.....	.....	.....	.....	.....	.....	.....	.....	.....	88	32	36.4	.....	.....	.....
Typewriting	.....	.....	.....	.....	.....	.....	.....	.....	.....	88	32	36.4	.....	.....	.....
English	.....	.....	.....	.....	.....	.....	.....	.....	.....	116	51	44.0	.....	.....	.....
German	.....	.....	.....	24	8	33.3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Normal course	.....	.....	.....	.....	.....	.....	.....	.....	.....	41	5	12.2	.....	.....	.....
Physics	.....	.....	.....	.....	.....	.....	.....	.....	.....	36	19	53.1	.....	.....	.....
Woodworking	.....	.....	.....	.....	.....	.....	84	51	60.7	.....	.....	.....	.....	.....	.....
Cookery	.....	.....	.....	.....	.....	.....	86	73	84.9	.....	.....	.....	.....	.....	.....
Sewing	.....	.....	.....	.....	.....	.....	108	70	64.8	.....	.....	.....	.....	.....	.....
Dressmaking	.....	.....	.....	.....	.....	.....	86	50	58.1	.....	.....	.....	.....	.....	.....
Millinery	.....	.....	.....	.....	.....	.....	38	20	52.6	.....	.....	.....	.....	.....	.....
Algebra	.....	.....	.....	24	8	33.3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	.....	.....	.....	3,823	1,742	45.6	402	264	66.7	369	139	37.7	4,594	2,145	46.7

TABLE 2.005.

Distribution of attendance by departments in night schools during the term 1915-1916.

Number of Nights Present.	English to foreigners.		Elementary.		Vocational.				Secondary.		Totals by sex.		Totals.
					Various.		Cookery.						
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
White Schools.													
Over 60	62	29	52	52	53	.....	.....	.....	112	140	279	221	500
49 to 60	74	61	123	77	51	.....	.....	.....	147	90	395	228	623
37 to 48	89	86	61	45	32	.....	.....	.....	158	68	340	199	539
25 to 36	109	72	158	99	41	.....	.....	.....	294	89	602	260	862
12 to 24	158	91	93	61	105	.....	.....	305	256	169	612	626	1,238
Under 12	166	62	151	64	168	.....	.....	239	310	229	795	594	1,389
Totals by sex	658	401	638	398	450	.....	.....	544	1,277	785	3,023	2,128	.....
Totals by departments	1,059		1,036		904				2,062		.....	.....	5,151
Colored Schools.													
Over 60	.....	.....	54	84	21	20	.....	.....	4	3	79	107	186
49 to 60	.....	.....	89	163	22	49	.....	.....	6	5	117	217	334
37 to 48	.....	.....	80	104	6	42	.....	.....	9	5	95	151	246
25 to 36	.....	.....	89	96	17	87	.....	.....	8	23	114	206	320
12 to 24	.....	.....	97	129	19	97	.....	.....	5	8	121	234	355
Under 12	.....	.....	116	163	40	92	.....	.....	7	21	163	276	439
Totals by sex	.....	.....	525	739	125	387	.....	.....	39	65	689	1,191	.....
Totals by departments	.....		1,264		512				104		.....	.....	1,880

TABLE 2.00b.

Showing nativity of all pupils enrolled in night schools during term of 1915-1916.

Place of Birth.	White.	Colored.
Native.		
Baltimore	2,822	814
Maryland	264	503
Other United States	407	543
Foreign.		
Austria-Hungary	264	.....
Bulgaria	1	.....
China	1	.....
Denmark	1	.....
England	13	.....
France	9	.....
Germany	163	.....
Greece	10	.....
Holland	2	.....
Ireland	21	.....
Italy	168	.....
Japan	1	.....
Luxenburg	1	.....
Mexico	2	1
Norway	4	.....
Nova Scotia	1	.....
Persia	1	.....
Poland	12	.....
Roumania	10	.....
Russia	964	.....
Serbia	1	.....
South Africa	1	.....
Spain	2	1
Sweden	3	.....
Switzerland	2	.....
West Indies	.....	18
Totals	5,151	1,880

TABLE 4.002.

RECAPITULATION.

Net roll or register.

Day Schools.	Boys.	Girls.	Totals.
Normal schools:			
Teachers' Training Schools—			
Number in second year classes...	10	101	111
Number in first year classes.....	23	188	211
Totals	33	289	322
Secondary schools:			
Number in fifth year classes.....	.....	6	6
Number in fourth year classes.....	340	479	819
Number in third year classes.....	415	531	946
Number in second year classes.....	544	758	1,302
Number in first year classes.....	1,018	1,027	2,045
Totals	2,317	2,801	5,118
Elementary schools:			
Grammar grades—			
Number in eighth grade.....	1,257	1,486	2,743
Number in seventh grade.....	2,041	2,268	4,309
Number in sixth grade.....	2,815	3,354	6,169
Number in fifth grade.....	4,442	4,442	8,884
Number in fourth grade.....	5,153	5,011	10,164
Totals	15,708	16,561	32,269
Primary grades—			
Number in third grade.....	5,443	5,351	10,794
Number in second grade.....	5,451	5,384	10,835
Number in first grade.....	5,973	5,467	11,440
Number in kindergarten classes..	558	520	1,078
Number in ungraded classes, including special classes and Parental School	431	126	557
Totals	17,856	16,848	34,704
Summary:			
Number in normal schools.....	33	289	322
Number in secondary schools.....	2,317	2,801	5,118
Number in elementary schools.....	33,564	33,409	66,973
Grand totals, day schools.....	35,914	36,499	72,413

TABLE 4.002—*Continued.*

RECAPITULATION.

Net roll or register.

Night Schools.	Male.	Females.	Totals.
Secondary schools	560	374	934
Elementary schools	945	1,042	1,987
Vocational schools	40	389	429
Totals, night schools	1,545	1,805	3,350

Summer Schools.	Boys.	Girls.	Totals.
Review schools:			
Secondary schools	358	415	773
Elementary schools	586	680	1,266
Vocational school	129	45	174
Totals, summer schools	1,073	1,140	2,213

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CITY OF BALTIMORE, DEPARTMENT OF CHARITIES AND CORRECTION

17TH ANNUAL REPORT, SUB-DEPARTMENT OF

SUPERVISORS OF CITY CHARITIES

TO THE MAYOR AND CITY COUNCIL
OF BALTIMORE

FOR FISCAL YEAR ENDING DECEMBER 31, 1916

SUPERVISORS OF CITY CHARITIES

J. HALL PLEASANTS, M. D., PRESIDENT,
†JOHN BLACK,
ALBERT A. BRAGER,
CARY B. GAMBLE, JR., M. D.,
MRS. DANIEL MILLER,
ELISHA H. PERKINS,
ANTON G. RYTINA, M. D.,
JAMES R. WHEELER,
J. WHITRIDGE WILLIAMS, M. D.

Bay View Committee:

J. Whitridge Williams, M. D., *Chairman*,
Cary B. Gamble, Jr., M. D.,
Mrs. Daniel Miller,
Anton G. Rytina, M. D.

Hospital and Dispensary Committee:

Albert A. Brager,
Cary B. Gamble, Jr., M. D.,
James R. Wheeler,
J. Whitridge Williams, M. D.

Children's Institutions and Children's Committee:

Mrs. Daniel Miller, *Chairman*,
Cary B. Gamble, Jr., M. D.,
Elisha H. Perkins,
Anton G. Rytina, M. D.

Office Committee:

Elisha H. Perkins, *Chairman*.
James R. Wheeler,
Albert A. Brager.

The offices of the Supervisors are on the third floor of the Court House, Rooms 305, 307, 309.

Hours: On week-days, 9 A. M. to 4 P. M.; on Saturdays, to 1. P. M.

†Died.

REPORT

BALTIMORE, December 31, 1916.

To the Honorable Mayor and City Council:

GENTLEMEN—By law the Supervisors of City Charities are entrusted with the care of the following classes of dependents and delinquent minors of Baltimore city:

Indigent aged and infirm.
Indigent sick.
Indigent insane.
Dependent children.
Temporary care of homeless men.
Dependent blind.
Transportation of non-resident poor to their homes.
Temporary care of wayward women.
Care of delinquent minors in reformatories.

The Supervisors not only directly maintain and conduct several hospitals and an infirmary for the aged at Bay View to care for the various groups of dependents just enumerated, as well as medical agencies or dispensaries in various parts of the city, but they also contract on a per capita basis with various State and private institutions for the care of the dependent sick, of the insane, of homeless men and of dependent children who are properly city charges. Large numbers of children are also provided for in good private homes, where they are placed without expense to the city and where they are carefully supervised and watched by trained visitors representing the Supervisors.

Delinquent minors of both sexes committed by the courts or by police magistrates to the various private or quasi-public reformatories with which the city contracts on a per capita basis also come under the supervision of the Supervisors.

Bay View.

There has been a steady growth during the year 1916 in the work of the various departments at Bay View. Four groups of dependents are cared for at Bay View. The total population at the institution December 31, 1916, is 1,604. Of this number, 135 are officers of the institution and 1,469 are inmates. The inmate population shows an increase of 44 as compared with the same date last year. This increase is principally due to the increased number of patients in the Insane Department at Bay View, which shows an increase of 129, due to the failure of the various State institutions to provide for additional patients. The population in all departments of Bay View, as compared with the same date last year, is as follows:

	1916.	1915.
Infirmary	804	892
Insane Department	268	139
General Hospital	250	225
Tuberculosis Hospital	147	169
Totals	1,469	1,425

The cost of running Bay View shows a marked increase as compared with last year, due almost entirely to a sharp increase in the cost of food and fuel as well as hospital and other supplies. Figures showing in detail the cost of operating the several departments, as well as statistical information and data of medical interest, will be found in the separate reports of the superintendent and of the physicians in charge of the several departments.

Owing to the fact that the appropriation for 1916 of $25,000 for new improvements at Bay View was very much smaller than the appropriations for this purpose in preceding years, it has been impossible to undertake much new work.

Main Building.

A new and thoroughly sanitary lavatory annex, connecting with the west, or women's wing of the Main Building, has been erected and recently put into use. This was a greatly needed improvement, as the bathing and toilet facilities in the old annex were inadequate and unsanitary. The new lavatory has been constructed along similar lines to that erected a few years ago for the use of the east, or men's wing of the Main Building, which

has proved so satisfactory. While this lavatory annex just opened in the women's wing is exclusively for the use of the inmates, the old and unsanitary washrooms for the use of the women employees and nurses living in this building have also been modernized and equipped with new shower baths, tubs and toilet arrangements. The total cost of the lavatory annex for the inmates and the remodeling of the officers' bathrooms was $18,250.

Two new fireproof stairways have been installed in the west, or women's end of the Main Building. They are similar in construction to the three fireproof stairways installed about two years ago in the central portion and in the east, or men's wing of this same building. There are now altogether five new fireproof stairways in the Main Building—all the old wooden stairways having been now replaced with fireproof structures. This is a very important step in protecting against fire this very large building, housing about 835 people. These two new fireproof stairways were erected at a cost of $4,600.

During the year the work of installing the electric light, telephone and fire alarm wires in the underground ducts connecting the various buildings of the institution has been completed so that it has been possible to remove the unsightly poles from the grounds. Many minor improvements have also been made during the past year. A great deal of interior painting by inmate labor has been done.

A small appropriation of $1,500 for additional equipment for the Tuberculosis Hospital has enabled the Board to make several purchases which have added greatly to the efficiency of this Department. A covered areaway, connecting the Tuberculosis Hospital and the kitchen nearby, has been built and put into operation. This work was built largely by inmate labor.

Plans for New Improvements.

The Board of Estimates has appropriated $50,000 for new improvements at Bay View during the coming year. Very many things are urgently needed there, but it is felt by the Board that none are of greater importance than additional measures to secure better fire protection. The present six-inch water line, connecting the power plant with the million-gallon reservoir, is too small to give an adequate supply of water to the fire pumps. It is proposed to lay a new ten-inch pipe to secure a more adequate supply. The fire lines running from the pumps in the power house to the standpipes in the various buildings at Bay View are

also used to supply these same buildings with water for domestic and other institutional purposes, necessitating the use of pressure valves to regulate the pressure of water in the pipes running from the fire lines and used for domestic purposes. It will probably be advisable to install several new high-pressure fire lines from the power house to the various buildings in order to secure at all times sufficient high pressure in these lines, and to use the old fire lines entirely for supplying the buildings with water for domestic and general institutional purposes. This entire problem is now being carefully investigated by the engineers with a view to making such changes as are necessary to afford a maximum degree of fire protection.

A ventilating system was installed in the east end of the Main Building two years ago and resulted in an enormous improvement in the healthfulness of the building. Sufficient funds were not available at the time to ventilate the west, or women's wing. It is hoped that the ventilation of the remainder of the building can be completed with the funds now available.

The necessity of a new stable and barn and a new garage was pointed out in the last annual report. It is most desirable to replace the old stable, now located between the Main Building and the hospitals, with a new building located in the neighborhood of the new cow barns to the north of the power plant. The proximity of the present stable to the hospitals and the Infirmary makes the control of the fly nuisance exceedingly difficult. Furthermore, the condition of the old building is such as to require constant repairs.

Insane Department.

During the year 1915, 461 insane patients were removed from the Insane Department at Bay View to the various State institutions. During the year 1916 only 95 patients have been removed from Bay View to these same State institutions. There are now 268 insane patients at Bay View as compared with 139 twelve months ago. As the number of insane admitted to Bay View shows a steady yearly increase it is obvious that the present buildings for the care of the insane at Bay View will soon be filled to overflowing unless new provision is made for additional patients by the State. In every annual report for many years past attention has been called to the necessity for additional provision for the insane in State institutions. The State, by legislative enactment, has formerly declared for State care of all

indigent insane in Maryland. The last Legislature, however, failed to provide funds for the erection of new buildings, as a result of which we are now confronted with a most alarming situation. At the present rate of increase Bay View will be full to overflowing by the end of 1917. Additional provision by the State cannot be made until the next session of the Legislature, and even should the new Legislature provide funds for the construction of new buildings, such buildings could not be erected and additional accomodations be available for occupancy until the year 1918.

Labor Problem.

The great increase in wages paid to labor of all kinds has given rise to great difficulty in filling many positions at the wages or salaries now authorized. Four firemen are employed to operate the power plant; they receive $50 a month and work twelve hours. This wage is much below that paid by other city departments and by private corporations for firemen working only eight hours a day. Since the first of last January 53 firemen have held these four positions and it is becoming increasingly difficult to obtain anyone to do this work. The wages paid the men employed to look after the dairy farm, the grounds and general institutional labor ($25 a month) is also insufficient to obtain and hold even indifferent labor. The situation is really critical. The institution uses its inmate labor as far as it is possible to do so, but this labor is entirely inadequate to perform continuous or heavy work of any kind. Several years ago large numbers of able-bodied men were committed to Bay View by the police magistrates and such men were able to perform a great part of the institutional work. Under the existing law, however, it is unlawful for Bay View to receive or for magistrates to commit able-bodied men. This class is now sent to the House of Correction or to the Jail. Bay View has become a large municipal hospital and a home for the aged and infirm. Except for a few able-bodied insane who, however, can only be worked in small groups under the supervision of paid attendants, there is no male labor at Bay View which can be called upon to perform heavy or continuous labor of any kind.

Activities of the Department Other Than at Bay View.

Institutions for Dependents.

For the care and treatment of the various city charges outside of Bay View, contracts on a per capita basis have been entered into with thirty-five institutions, other than reformatories. Under the City Charter lump appropriations to the institutions dealing with dependent children, with the insane, with the sick in hospitals or dispensaries, with homeless men, with unmarried women who are expectant mothers, and with the care of the dependent blind, are forbidden, and payment to such institutions as the city contracts with for the care of these classes must be on a per capita basis, payment to be made only for work actually done. The Supervisors exercise a rigid supervision over these institutions, and determine that each case received and cared for is deserving of city aid.

During the year about 48,000 individuals were dealt with by the Department. The Supervisors of City Charities act as a clearing house for the innumerable cases that baffle the Police Department and charitable agencies and institutions of the city. When all other resources fail the Supervisors are appealed to for help. Of the above number, 2,320 were admitted to Bay View. The remainder were otherwise provided for.

Reformatories.

As was fully explained in the last annual report, the Supervisors of City Charities now have supervision over male and female delinquent minors committed to various reformatory institutions with which the city has contracts. Through co-operation with these institutions some marked improvements have been brought about. Notable among these are the recreational features which have been introduced in the various reformatory institutions for girls. Playgrounds have been provided, and games and amusements, under the direction of trained playground instructors, have done much to improve the health, happiness and discipline of the inmates. The contracts for 1916 made provision for the care of about 1,880 inmates in the ten institutions of this character with which the Supervisors contract.

Hospitals.

There has been little change in the list of private hospitals with which the Supervisors have contracts for the care of the indigent sick, and few changes have been made in the number of beds paid for by the city. Six thousand and fifty-one patients suffering from various types of illness were accepted as proper city charges and sent to the various hospitals with which the city has contracts. Five hundred and eighty-six visits were made by our visitors in the interests of these patients.

Dispensaries.

No change in the list of private dispensaries contracted with for the care of the indigent sick has been made this year by the Supervisors. One new medical agency has been established at 937½ West Thirty-sixth street, Hampden, to care for the poor in the Hampden-Woodberry territory. This agency was opened in April, 1916, and the work which it has been called upon to perform has fully justified its establishment. This makes four city medical agencies now in operation conducted directly by the Supervisors.

At the dispensaries 27,719 persons received treatment during the year at the expense of the city, and 3,786 visits were made to the homes of patients by physicians whose services were paid by the city.

Child Placing and Children's Institutions.

Beginning January 1, 1916, a new method for handling white *foundlings* and *abandoned infants* was inaugurated, which marks a notable advance in the care of this class of dependents. Up to the present year, foundlings, both white and colored, had been placed by the Supervisors in institutions for the care of infants with which the city had contracts. Very general attention has been called to the enormous mortality, amounting in some years to practically 100 per cent. in infants under six months placed in such institutions. After numerous unsatisfactory attempts had been made by this Department to improve the method of handling foundlings, an arrangement was finally entered into with the Florence Crittenton Mission which has resulted in saving the lives of 10 out of 12 white foundlings which have come into the hands of this Department during the past twelve months. The infants, unless seriously ill, are taken at once to the Mission and are given a thorough medical examination by a specialist in

children's diseases, including a blood examination to determine whether the infant is infected with any form of communicable disease. The infants are kept in a sanitary nursery under the charge of skilled nurses. They are fed with mothers' milk, obtained by a breast pump from the inmates of the institution. They remain at the Mission until they are at least one year old, or longer if this is deemed advisable by the physician in charge. If seriously ill when received by the Department they are sent at once to the Harriett Lane Hospital and treated there until they can be sent with safety to the Mission. The efficient way in which the infants are cared for is shown by the striking figures given above—the lives of 94 per cent. having been saved. It should be remarked in passing that the one infant which died was born prematurely and was in a dying condition when received. It is questionable whether any other city in the United States has a better record as regards the proportion of foundlings saved as has Baltimore during the year just closed.

Provision has been made for the care of dependent children who have become city charges, either by placing them in free private homes or in institutions. In general, it may be said that the children who have become city charges have been committed to the care of the Supervisors by the courts or otherwise because private charity has failed to make provision for them. In deciding whether a child shall be placed in an institution or in a free private home, the individual needs of each child are carefully considered; but, in general, the private home is preferred. Whether placed in private homes or in institutions, all such children remain in charge of and under the authority of this Department, and frequent visits by trained agents are made to the private homes and to the institutions to make sure that proper care and attention are being bestowed.

In 1916 the Supervisors were requested to assume charge of 259 children. By careful investigation of these cases, however, the number which were actually accepted as city charges was reduced to 94; private charity providing for 101 without cost to the city, while relatives having suitable homes were induced to take charge of 64 children, and in this way many families were held together which otherwise would have been disrupted. In addition to this number, 43 children in institutions were returned to their relatives and the families reunited. Suitable free private homes, other than those with relatives, were found for 61 children. Including those children who have come under our con-

trol in previous years, there is now a total of 608 children who are wards of the city and under the care of the Supervisors. Of this number, 280 are in good private homes without cost to the city, except the comparatively trival expense which visiting and supervision by the trained agents or visitors of the Department entail. One thousand eight hundred and eighty-three visits were made by these agents in the interest of these 608 children.

The Supervisors are glad to state that none of the 608 dependent children under their charge developed infantile paralysis in the epidemic which occurred during the past summer and autumn.

Friendly Inn and Transportation of the Poor.

The Supervisors have continued to contract with the Friendly Inn for the care of homeless men. Through the Department 11,005 lodgings were provided during the past year for 4,859 men, 214 of whom were physically incapacitated. Twenty-one thousand and two meals and 8,948 baths were given. Employment was secured for a number of men.

Under the Charter, the Supervisors are entrusted with the expenditure of a fund of $1,000 to provide transportation for certain non-resident poor and destitute to their homes, when these are situated outside of the City of Baltimore; $467.14 was spent during the year for this purpose. One hundred and sixty-two persons applied for transportation, 60 of whom were sent to their homes, 18 were referred to private charities and five were paid for by friends. The remaining 79 were refused for excellent reasons.

Horwitz Fund.

During the year 1916, as in previous years, the Supervisors have recommended to the Mayor 12 families among the deserving poor, which, under the terms of the will of the late Orville Horwitz, are to enjoy the interest from a fund now amounting to $20,000, left by him for the purpose. Twelve persons were selected as suitable to receive assistance from the Horwitz Fund.

Widows' Pensions.

The Legislature of 1916 passed an act which is commonly known as the Mothers' or Widows' Pension Bill. Under the terms of this act, the Mayor and City Council were given the option of placing its administration in the city either in the hands of a special board, to be called the Board of Mothers' Relief, to be

appointed by the Mayor, or to entrust its administration to the Supervisors of City Charities. An ordinance was passed in November by the City Council placing the administration of the law in the hands of the Supervisors of City Charities. Pending the decision of the courts in a proceeding brought by the city to determine the validity of the act of the Legislature creating a pension fund, the Supervisors have been notified by the City Law Department to make no move towards exercising the powers conferred upon them by the ordinance of the City Council.

Investigation of the Causes of Poverty.

A fund of $5,000 was included in the appropriations for 1917 by the Board of Estimates and the City Council "To be expended for survey of the causes and the amelioration of poverty, indexing and systematizing the reports of charities (appropriated for the year 1917 only, and not to be continued)." It was distinctly understood when this money was set aside and included among the appropriations for the coming year to be expended under the supervision of the Supervisors of City Charities, that the fund would be turned over to the recently formed Alliance of Charitable and Social Agencies to be used by them in a study of local conditions in their bearing upon the problem of poverty. The Alliance has outlined an interesting plan of investigation and it is hoped that this study will be productive of practical results. Reports as to the progress of the investigation and the methods of expending the appropriation will be made at intervals by the Alliance to representatives of this Department.

City Offices.

The cost of maintaining the City Offices was $11,519.63 during the past year. This sum has been largely expended for the salaries and traveling expenses of clerks and trained visitors, whose duty it is to make a thorough investigation of the status of all persons applying for aid, to visit and inspect the numerous private institutions with which the Supervisors contract and to watch over the welfare of children placed in free private homes scattered throughout the State. The entire cost of operating our City Offices was more than returned to the city treasury in the one item of money collected through this office from the "reimbursing insane." The amount received from this source and turned over to the Comptroller in 1916 will be $17,504.36. Additional information will be found in the report of the City Comptroller, showing in greater detail the manner in which the

appropriations to this Department have been expended for the care of the various classes of dependents and delinquents coming under its charge.

Death of Mr. John Black.

In the death of Mr. John Black, which occurred in June, the Board lost a most valued member. Mr. Black had been a member of the Board of Supervisors of City Charities since its creation, when the city adopted its New Charter. He had also for fifteen years previous to that time been a member of the old board, known as the Trustees of the Poor, which exercised functions somewhat similar to those now entrusted to the Supervisors. During the thirty-one years in which Mr. Black served the city he took a very great interest in all matters concerning this Department and was for many years the chairman of the Bay View committee. His loss has been deeply felt by every member of the Board.

The Supervisors expended during the year 1916, $730,194.08, as compared with $721,893.30 in 1915. The following table shows the amounts appropriated by the Mayor and City Council for the use of this Board:

1916.	Appropriations.	Expended.	Unexpended.
Bay View, salaries	$77 238 00	$68,048 31	$9,189 69
Bay View, expenses	169,815 00	169,643 68	171 32
Bay View, new improvements	25,000 00	16,658 82	8,341 18
Bay View, improvements, brought from 1915	12,697 74	9,436 76	3,260 98
City office, salaries	10,000 00	9,940 00	60 00
City office, expenses	1,700 00	1,579 63	120 37
Hospitals	94,000 00	85,124 10	8,875 90
Insane	208,250 00	199,002 80	9,247 20
Temporary care of homeless men	2,000 00	2,000 00	.....
Transportation	1,000 00	467 14	532 86
Dispensary	14,250 00	13,951 93	298 07
Children	27,000 00	25,423 39	1,576 61
Maryland Workshop for the Blind	5,000 00	5,000 00	.....
Reformatories	132,700 00	123,917 52	8,782 48
Totals	$780,650 74	$730,194 08	$50,456 66

Amount expended			$730,194 08
Amounts paid to city:			
Bay View, sale of old material.	$512 04		
Bay View, board of inmates...	202 65		
		$714 69	
Reimbursing through city offices:			
For care of insane	$17,557 84		
For care of children	138 25		
For hospitals	8 50		
For reformatories	162 50		
State reimbursement for insane,	24 99		
For articles made at Bay View, sold at State exhibit for insane	23 48		
		17,915 56	
			18,630 25
Net cost of all departments			$711,563 83

Respectfully submitted,

J. Hall Pleasants, M. D., *President*,
Albert A. Brager,
Cary B. Gamble, Jr., M. D.,
Mrs. Daniel Miller,
Anton G. Rytina, M. D.,
Elisha H. Perkins,
James R. Wheeler,
H. Whitridge Williams, M. D.

REPORT OF SUPERINTENDENT OF BAY VIEW ASYLUM

BAY VIEW ASYLUM, January 1, 1917.

To the Supervisors of City Charities:

GENTLEMEN—I beg to hand you herewith the annual report of Bay View Asylum for the fiscal year ending December 31, 1916.

POPULATION.

The total number of inmates in the institution, including all departments, at the beginning of the day January 1, 1916, was 1,425 (828 white males, 267 white females, 193 colored males and 137 colored females).

The admissions during the year were 2,320, and 5 were born in the institution, making a total of 2,325. Of these admissions a number were for persons who were in the institution at the beginning of the year, who were discharged and readmitted during the year, and 632 for persons admitted two or more times during the year.

The total number remaining in the institution at the close of the day December 31, 1916, was 1,469 (792 white males, 285 white females, 226 colored males and 166 colored females), an increase of 44 as compared with the year 1915.

The increase in the insane is		129
General Hospital		25
		154
Decrease in Tuberculosis Hospital	22	
Decrease in Infirmary	88	
		110
Net increase		44

The decrease in the Infirmary is partially accounted for by the transfer of a number of incurable cases from the sleeping rooms to the chronic ward of the General Hospital.

The total in each department, as compared with the close of the day December 31, 1915, is as follows:

	1916.	1915.	Increase.	Decrease.
Insane	268	139	129	....
Tuberculosis Hospital	147	169	....	22
General Hospital	250	225	25	....
Infirmary	804	892	....	88
	1,469	1,425	154	110
	1,425	.....	110	....
Net increase	44	.....	44	....

The daily average number of inmates was 1,385, as compared with 1,531 for the year 1915, a decrease of 146. The highest number present at one time was 1,602 on January 4 and the lowest 1,277 on the 17th of July.

Deaths.

The total number of deaths for the year was 597 (255 white males, 91 white females, 164 colored males and 87 colored females), a decrease of 57 as compared with 1915. The deaths caused by tuberculosis were 263, or 44 per cent. of the total; 261, or 42 per cent. of the total deaths, were colored patients.

The average age of the white males who died was 54¼ years.

The average age of the white females who died was 56 1/3 years.

The average age of the colored males who died was 46½ years.

The average age of the colored females who died was 40 1/3 years.

The average age of those who died of tuberculosis was 40¾ years.

The average age, exclusive of tuberculosis, was 57¾ years.

The average age of the total who died was 50½ years.

Friends claimed 416 bodies, 82 were buried by St. Vincent de Paul Society, 3 by All Saints P. E. Sisters, 49 were delivered to the Anatomy Board and 47 were disposed of by the city.

Commitments by Police Magistrates.

The total commitments during the year 1916 were 282 (185 white males, 29 white females, 53 colored males and 15 colored females), 53 more than in 1915.

This is the largest number of persons committed by the magistrates since the Board of Supervisors was organized in 1900. Eighty-one were committed that year as compared with 282 cases for 1916.

A conference was held last month with the magistrates at which plans were submitted for the purpose of keeping down the number of commitments and to prevent the committing of un-

desirable persons to Bay View, especially those who have been discharged for disorderly conduct or disobedience of the rules of the institution. It is hoped that with the co-operation of the magistrates these persons will now be kept out.

Financial.

The amount appropriated for the maintenance and improvements of Bay View for the year 1916, together with balances brought forward from 1915, made available the sum of $280,-750.74, distributed as follows:

For salaries	$77,238 00	
For provisions	90,000 00	
For fuel and light	26,250 00	
For clothing and bedding	11,389 00	
For drugs and hospital supplies	11,000 00	
For purchase of horses and cows	1,000 00	
For Dental Department	500 00	
For general expenses, minor repairs and miscellaneous	27,176 00	
For added equipment for Tuberculosis Hospital	1,500 00	
For laboratory supplies and equipment	1,000 00	
For improvements	25,000 00	
Brought forward from 1915	12,697 74	
Total available for 1916		$284,750 74

Expenditures.

For salaries	$68,048 31	
For provisions	89,999 65	
For fuel and light	26,250 00	
For clothing and bedding	11,389 00	
For drugs and hospital supplies	10,888 37	
For purchase of horses and cows	992 50	
For equipment Dental Department	500 00	
For general expense, minor repairs and miscellaneous	27,132 17	
For added equipment Tuberculosis Hospital	1,500 00	
For laboratory supplies and equipment	991 99	
For improvements	26,095 58	
Total expended in 1916		263,787 57
Balance unexpended		$20,963 17
Balance of appropriation unused remaining in the city treasury	$9,362 93	
Balance of appropriation for new hospital ward "A" from 1910 carried forward to 1917	3,259 06	
Balance of appropriation for improvements carried forward to 1917	8,341 18	
		$20,963 17

Two hundred and two dollars and sixty-five cents ($202.65) for board of inmates in Bay View and five hundred and twelve dollars and four cents ($512.04) for sales of old material was collected at the institution and paid to the City Comptroller. Eight hundred and seventy-three dollars and ten cents ($873.10) for board of insane at Bay View was paid through the Supervisors' office and included in the returns from that office on account of the reimbursing insane. The total of these two amounts has been deducted from the amount of the expenditures in order to arrive at the net cost of maintenance to the city.

The per capita cost of maintenance in each department, after deducting their share of the above cash receipts, was $207.16 for the insane, $231.05 for the General Hospital, $258.74 for the Tuberculosis Hospital and $120.85 for the Infirmary. The average of the total of all departments was $171.15.

The per capita cost of feeding in each department was $59.45 for insane, $85.87 for Tuberculosis Hospital, $67.31 for General Hospital, $40.86 for Infirmary, and the average for the total population was $52.56 or 14 4/10 cents per day.

Medical Board.

This board, which has charge of the medical and surgical care of the institution, held their meetings as usual, which were generally well attended.

City Detention Hospital for Insane.

This department is under the charge of Dr. Henry E. Austin as physician-in-chief, with one resident physician.

The total number of patients present at the beginning of the year was 129. The total admissions during the year were 346, and total discharges, including deaths and transfers, were 217. The total remaining at the close of the year was 268, an increase of 129.

The daily average number of inmates for the year was 207, as compared with 355 for 1915, a decrease of 148.

The highest number present on any one day was 268 on the 26th of December, and the lowest, 139, on the 1st of January.

The white male ward is greatly overcrowded. We have no place to accommodate them except in the female building. There are many reasons why this should not be done, but, having no other place to accommodate them, it will be necessary to do this until the State can relieve us of this care.

The instructor of fancy work has been doing good work among the females, teaching them fancy work and games for the recreation hours. The men have made a large number of brooms, and are used on all kinds of work around the institution. The women made 1,732 articles of various kinds and repaired 1,914 pieces of wearing apparel.

Moving-picture shows are given at intervals of every two weeks except during the hot summer months.

City General Hospital.

This department includes Ward "A" and the two chronic or incurable wards in the Main Building and hospital annex. The staff consists of Dr. Thomas R. Boggs, physician-in-chief; Dr. Arthur M. Shipley, surgeon-in-chief; one pathologist, one resident physician, one resident surgeon, one assistant resident pathologist, one assistant resident physician and seven internes.

The daily average number of patients for the year was 274, 4 more than in 1915.

The number remaining at the end of the year was 250, 25 more than at the beginning of the year.

The number of admissions to Ward "A" during the year were 659 medical cases and 284 surgical cases. The discharges were 865.

The new male and female wards in the Main Building for the chronic or incurable cases were opened early in the year. One ward is in the east wing, male side of the building, the other in the west wing, female side. Owing to their being so far apart, the administration is complicated. A ward is still to be opened for the colored females who are now in the sleeping rooms. A building for these cases should be erected in the proposed hospital group.

We again failed to get an appropriation for an X-ray outfit. This is an actual necessity. During the year 64 cases had to be sent to the University Hospital for X-ray treatment. It takes the time of a driver or chauffeur for a half-day each trip.

Municipal Tuberculosis Hospital.

This department is under the charge of Dr. Gordon Wilson, physician-in-chief, with a staff of one resident physician and five internes.

The number of patients remaining at the close of the day December 31 was 147, 22 less than the same day in 1915.

The total admissions for the year were 473 (235 white males, 76 white females, 47 colored females and 115 colored males).

The daily average number of patients was 156, a decrease of 8 as compared with the year 1915.

The highest number present on any one day was 181 on the 19th and 20th of March, and the lowest, 133, July 13.

The covered way connecting the hospital and kitchen has been completed and has proved a great convenience.

Cement pavment has been put around all the buildings, including the nurses' home, and the grounds very much improved. This has all been done by our inmate labor.

Infirmary.

The total number of inmates in the Infirmary at the close of the year was 804, 88 less than in 1915.

The daily average for the year was 747, 7 more than in 1915.

The physical condition of the inmates admitted is worse each year, making it very difficult to select from them a sufficient number to do the necessary work about the institution in the way of cleaning up and other things.

We, however, continue to work those that are able to do anything. A number of the rooms have been painted and a new lavatory put in on the female side. Two new iron stairways have been put in, making all the stairways in the Infirmary building fireproof.

The women's sewing room turned out 13,196 new pieces of clothing and other articles. All the underclothing issued to the men and all the clothing for the women are made in this sewing room.

Farm.

Although the season was bad for raising crops, the profits are estimated at $1,140.48 as shown by the accompanying statement of produce raised, which includes 32,163½ gallons of milk. There is no credit given in this statement for the extra hauling done by farm teams and hands.

We now have a fine herd of hogs and expect good results to come from their change to new grounds.

Improvements.

The old lavatory on the female side of the Main Building has been enlarged and modernized. It is now up to date in every particular.

Two new fireproof stairways have been erected in the Infirmary building.

Additional cement pavements and foot paths have been laid—this latter work all being done by our inmate labor.

An appropriation of $50,000 has been made for improvements this year; the most important of which is ventilating the east end and wing of the Main Building, and new suction water line from reservoir to power house.

General.

I must again urge that some steps be taken to keep out inmates who are quarrelsome and have been discharged for cause. It is very hard to keep up proper discipline while an inmate thinks he can return after being discharged for some misdemeanor.

Church services of some kind are held daily and the Christian workers are diligent in looking after the spiritual welfare of the inmates.

Entertainments are given occasionally and distributions made of candy, fruit, ice cream, etc.

Our thanks are due the good people who take interest in bringing sunshine to the poor unfortunates under our charge.

Very respectfully submitted,

Lamar Hollyday,
Superintendent.

Farm Products and Expenses.

Milk, 32,163½ gallons, at 20 cents per gallon	$6,432 70	
Salsify, 34 bushels, at 75 cents per bushel....	25 50	
Celery, 33 bunches, at 15 cents per bunch....	4 95	
Parsnips, 109 bushels, at 80 cents per bushel.	87 20	
Lettuce, 2,245 heads, at 3 cents per head.....	67 35	
Radishes, 600 bunches, at 5 cents per bunch.	30 00	
Parsley, 300 bunches, at 2 cents per bunch...	6 00	
Cabbage, 4,086 heads, at 6 cents per head....	245 16	
Peas, 3 bushels, at 75 cents per bushel.....	2 25	
Beets, 3,075 bunches, at 5 cents per bunch....	153 75	
Corn, 399 dozen, at 15 cents per dozen.....	59 85	
Tomatoes, 369 bushels, at 40 cents per bushel,	147 60	
Potatoes, 332 bushels, at $1.00 per bushel....	332 00	
Raspberries, 99 quarts, at 15 cents per quart.	14 85	
Pork, 3,027 pounds, at 12 cents per pound....	363 24	
Beef, 1,538 pounds, at 11 4/100 cents per pound,	169 80	
Beef, 450 pounds, at 12½ cents per pound...	55 12	
Beef, 3,487 pounds, at 11½ cents per pound.	401 00	
Veal, 1,125 pounds, at 15 cents per pound....	168 75	
Calves, 7.....	50 00	
Wheat, 275 bushels, at $1.78 per bushel.....	489 50	
Oats, 420 bushels, at 62 cents per bushel.....	260 40	
Rye, 20 bushels, at $1.00 per bushel.....	20 00	
Corn, 38 barrels, at $4.25 per barrel.....	161 50	
Corn, 16 barrels, at $3.00 per barrel.....	48 00	
Fodder, 1,200 bundles, at 4 cents per bundle.	48 00	
Straw, 25 tons, at $8.50 per ton.....	212 50	
Timothy hay, 10 tons, at $18.00 per ton.....	180 00	
Clover hay, 25 tons, at $13.00 per ton.....	325 00	
Cow hides, 9.....	130 53	
Calf hides, 20.....	22 30	
		$10,714 80

Expenses.

Wages for farmer and farm hands.....	$2,240 39	
Seeds, implements and fertilizer.....	555 93	
Hay, feed and straw.....	4,657 05	
Threshing, horse-shoeing and harness.....	389 46	
Repairs and miscellaneous.....	514 87	
Purchase of horses and cows.....	992 50	
Boar and breed sows.....	216 20	
		9,566 40
Profits		$1,148 40

BAY VIEW GENERAL HOSPITAL

BALTIMORE, December 31, 1916.

To the Board of Supervisors of City Charities:

GENTLEMEN—The chiefs of service in the General Hospital beg to submit as usual some observations on the work and needs of the department as made evident during the past year.

The internal administration of the hospital proper has been harmonious and the work on the whole satisfactory, though we have been short-handed so far as the staff is concerned for several periods during the year. This brings out clearly the increasing difficulty of securing adequately trained men for hospital positions, and emphasizes the fact that owing to our isolated situation, we must do everything possible to make our services valuable and attractive to the young men of the better schools. If we should be obliged to accept pick-up material such as could not be placed in other hospitals, the care of the patients, and the general efficiency of the organization will be greatly impaired. For this reason, we urge again to the attention of the Board the necessity for (1) maintaining the pathologic work on a higher plane of efficiency and (2) the urgent need of improving the preparation and serving of the food in the doctors' dining-room.

The teaching work by Doctors Shipley, Wilson, Winternitz, Hussey and Boggs is even more active now than last year, and the students are highly appreciative of the advantages to be obtained here. One of our severe handicaps in keeping up this work is our inability to secure competent laboratory technicians at the small compensation we are able to offer. We beg that the Board will make every effort to assist us in this respect.

The nursing situation still remains unsatisfactory and needs reorganizing. We have had this year tentative proposals from the hospitals in the State which need greater breadth of medical training to establish a system of exchange with them, but all these have fallen through because we are not able to qualify before the State Board of Nurses' Examiners as a recognized train-

ing school. It would be greatly to our advantage as well as extend our usefulness if we could effect a satisfactory system of exchange service with hospitals in the smaller cities of the State, and so balance our training and theirs to conform with the present law governing the registration of trained nurses. This cannot be done until such time as we are able to house adequately our training school and centralize the administration of the training of nurses under one head. For this we urgently need a building and an increased number of nurses and orderlies.

Our remarks in the last year's report on the subjects of the laundry, the imperfect policing of the grounds, the protection of the food supply from flies, and the necessity of an X-ray apparatus apply with even greater force this year.

The Dental Department has done excellent work in connection with the dispensaries and hospitals in relief of the more urgent diseases of the mouth and teeth. There is, however, a great deal that we can not even pretend to treat and the work could with great profit be very much extended.

The increased cost of food has reacted to some extent upon the meager dietary of the hospital, and we especially feel our restrictions in the absolutely necessary means for the treatment of the important metabolic diseases such as diabetes and neprhitis in which the dietary treatment is the essential factor. We should have a definite revision of the food plan of the hospital based on a greater per capita cost.

Trusting that the Board may be able to effect the needed relief,

Very respectfully,

THOS. R. BOGGS,
Physician-in-Chief.

ARTHUR M. SHIPLEY,
Surgeon-in-Chief.

CITY DETENTION HOSPITAL FOR THE INSANE

BALTIMORE, December 31, 1916.

To the Board of Supervisors of City Charities:

GENTLEMEN—According to custom, I present you with the annual report of the City Detention Hospital for the Insane, for the year ending December 31, 1916.

During the year there have been treated in the Hospital, for varying periods, 485 patients. On January 1, 1916, there were 139 patients in the Hospital. During the year 342 were admitted by regular commitment and 4 babies were born in the Hospital, showing an increase in admissions, as compared to 1915, of 25. Two hundred and sixty-eight patients were in the Hospital on the morning of January 1, 1917, an increase of 129, as compared to January 1, 1916. Of this number, 3 were infants. The transient population consisted of 217, of which 31 were transferred to Springfield State Hospital, 37 to Spring Grove State Hospital, 13 to Mt. Hope Retreat, 7 to Crownsville State Hospital; 11 were deported to other States, 42 died and 76 were discharged directly or after sixty days parole, as improved or recovered. Thirteen patients were on parole on the morning of January 1, 1917. Six patients now in the Hospital will be deported to Europe by the United States officials as soon after the war as proper arrangements can be made.

We have had four floors in operation during the year—two for male and two for female patients. Attention should be called to the fact that the population of the Hospital has almost doubled during the year, and that we are becoming badly congested on the white wards again; especially is that true of the white male wards. We are carrying at the present time, on the white male ward, 20 more patients than the normal capacity, and unless we get relief within the next few weeks by transferring a number of patients to one of the State hospitals, will have to resort to opening a ward for men in the female building, which is a most undesirable thing to do. With the limited amount of capacity

for male patients, and the very limited medical staff now allowed, the number of patients should, by all means, not exceed 225. Arrangements for enough transfers to the State hospitals to enable us to keep within that limit should be made.

A large percentage of our patients were employed in some way during the year. From the male side, we provide coal-passers, farm workers and general laborers for the institution. Our broom-making industry continues to furnish brooms for the entire institution, and illustrates what might be accomplished in the way of an industrial workshop for the male patients. Such a workshop would enable us to give employment to many patients who are unable to work outside. From the female side we furnish workers for the laundry, conduct a sewing room where all of the clothes for the female patients and all the shirts and underwear for the male patients are made.

Our occupational department, conducted for the benefit of those female patients who are not employed in the various industrial departments, has made great progress. Our instructor has been most active and successful in disseminating methods of occupation among the patients. The number of patients working in this department has more than doubled during the year, and the interest displayed and the quality of work produced has improved considerably. By this form of employment, many patients are aided to an early recovery and all are made more happy and contented.

During the summer months classes are held in the yard, where the patients are taught outdoor sports and other games of amusement. Moving pictures are given once every two weeks during the winter months, and music of some character is furnished one day every week during the summer months.

The devotional services, given by the Laymen's Ministerial Union every other Sunday, continues to be a source of pleasure to the patients.

The general health of the department has been good during the year. We have been free from any epidemic of a contagious nature.

The question of male attendants has been a very difficult one during the year. We have experienced great difficulty in securing and retaining a desirable class of men. This has been brought about by the large amount of work obtainable, and the high wages paid for same. Under present conditions the salary allowed for male attendants is insufficient. I recommend that an increase be considered.

I wish to renew my recommendation that a City Detention Hospital with modern equipment and sufficient capacity for 100 or more patients be erected. I think it is time the city was waking up to the fact that the much-talked-of complete State care of the insane seems to be more of a myth than a reality, in so far as it concerns Baltimore city. The present facilities of caring for and treating the insane is certainly a discredit to a progressive city like Baltimore. The buildings are old and dilapidated with no modern equipment. The arrangement of the buildings is most unsatisfactory, and no effort at classification can be attempted. All forms of disease have to be treated on the same ward. Patients with criminal and immoral tendencies have to mingle with those mildly depressed, the very young with the seniles and paralytics. This is most unfair to the unfortunate ones. I venture the assertion that a similar condition does not exist in any other State or city hospital for the insane in the East.

The medical staff, which is now limited to the physician-in-chief and one assistant, is entirely too small. It is impossible for two men to do the work of the department as it should be done.

I desire to thank my assistant, Dr. Pearlstein, for his most excellent work during the year. Dr. Berkley's continuous interest and service to the department is acknowledged with thanks.

I also wish to thank my stenographer, Supervisors and nursing staff for their kind and willing co-operation.

The active co-operation of the Superintendent and his department is acknowledged with thanks.

Respectfully,

HENRY E. AUSTIN,
Physician-in-Chief.

REPORT OF THE PHYSICIAN-IN-CHARGE OF THE MUNICIPAL TUBERCULOSIS HOSPITAL

BALTIMORE, December 31, 1916.

To the Board of Supervisors of City Charities:

GENTLEMEN—I beg leave to submit herewith the report on the Municipal Tuberculosis Hospital for the year ending December 31, 1916. During the past year there has been treated in the hospital, for varying periods, a total of 636 patients. The daily average number of patients in the hospital was, during 1916, 156, while in 1915 it was 164.

Of the 636 patients treated, 268 were discharged, 221 died, and there were 147 patients in the hospital on December 31.

During 1916, 103 post-mortem studies were made. These studies, of course, were only made after written permission of the nearest relative had been obtained.

The cost of running the hospital, including all expenses, save the interest on the investment, was, during 1916, a trifle under 71 cents per patient per day, of which amount 24 cents went for food alone.

I would again most strongly urge the providing of a suitable structure as a "nurses' home," as the present building is entirely too small for even our present number of nurses, and, in my opinion, is incapable of remodeling, save at a greater cost than that of a new building.

The type of orderly which we can obtain for the very low salary allowed means insufficient care, and, at times, direct harm to the patients through neglect, and on that account I would urge an increase of salaries for orderlies.

The allowance of $1,500 by the Board of Estimates for equipment has permitted us to supply a limited number of our patients with suitable bedside tables and lockers.

I would refer again to the recommendations made in previous years' reports and would emphasize the need of an X-ray plant.

I wish to thank my assistants—Dr. Habliston, resident physician, and Doctors Williams, Benson, Chandler, Hahn and Pruitt, assistant resident physicians—for their most excellent work during the past year.

I also desire to thank Miss Barron, and the nurses under her, for their capable work in the care of the patients.

The active co-operation of the Health Department, and especially the nurses of the Tuberculosis Division, is acknowledged with thanks.

Respectfully,

GORDON WILSON,
Physician-in-Charge.

MUNICIPAL TUBERCULOSIS HOSPITAL

DEATHS DURING 1916.

Sex and Color.	Number of Patients.	Average Age.	Social Condition.				Condition on Admission.			Sputum Examination.			History of Haemoptysis.			Avg. Number of Days in Hospital.	Avg. Number of Days in Bed.	Over 5 Years in Hospital.	Over 3 Years in Hospital.	Over 2 Years in Hospital.	Over 1 Year in Hospital.	Over 3 Months in Hospital.	Less Than 1 Month in Hospital.	Less Than 10 Days in Hospital.	Autopsies.	Serious Complications (Non-tubercular).					
			Single.	Married.	Widowed.	Separated.	Incipient.	Moderately Advanced.	Far Advanced.	Positive.	Negative.	No Record.	Positive	Negative.	No Record.											Valvular Heart Disease.	Syphilis.	Nephritis.	Pul. Abscess or Gangrene.	Malignancy.	Cirrhosis of Liver.
White male	101	45	56	22	15	8	...	6	94	89	5	7	40	56	5	220	106	2	4	5	20	44	39	19	42	11	4	4	2	...	1
White female	21	43	5	3	9	4	...	3	18	16	3	2	6	14	1	237	151	...	1	2	4	12	5	3	9	4	2	1	...	1	...
Colored male	71	38	49	9	9	4	...	1	69	62	6	2	28	40	2	47	47	...	...	...	...	11	35	16	39	1	4	...	1	...	...
Colored female	28	29	13	9	6	...	1	...	27	20	3	5	10	13	5	36	36	...	...	...	...	2	16	10	13	3	1	1	1	...	...
Total white	122	45	61	25	24	12	...	9	112	105	8	9	46	70	6	224	114	2	5	7	24	56	44	22	51	15	6	5	2	1	1
Total colored	99	33	62	18	15	4	1	1	96	82	9	7	38	53	7	44	43	...	...	...	...	13	51	26	52	4	5	1	2	...	...
Total male	172	42	105	31	24	12	...	7	163	151	11	9	68	96	7	149	82	2	4	5	20	55	74	35	81	12	8	4	3	...	1
Total female	49	35	18	12	15	4	1	3	45	36	6	7	16	27	6	122	85	...	1	2	4	14	21	13	22	7	3	2	1	1	...
Totals	221	41	123	43	39	16	1	10	208	187	17	16	84	123	13	134	83	2	5	7	24	69	95	48	103	19	11	6	4	1	1

DISCHARGES, 1916.

Sex and Color.	Number of Patients.	Average Age.	Social Condition.				Condition on Admission.			Sputum Examination.			History of Haemoptysis.			Avg. Number of Days in Hospital.	Avg. Number of Days in Bed.	Weight.							Condition on Discharge.				Over 1 Year in Hospital.	Over 6 Months in Hospital.	Less Than 1 Month in Hospital.	Less Than 10 Days in Hospital.	Serious Complications (Non-tubercular).									
			Single.	Married.	Widowed.	Separated.	Incipient.	Moderately Advanced.	Far Advanced.	Positive.	Negative.	No Record.	Positive.	Negative.	No Record.			Number Gaining.	Average Amount Gained (lbs.)	Maximum Gained (lbs.)	Number Losing.	Average Amount Lost (lbs.)	Number Not Changing.	No Record.	Apparently Cured.	Arrested.	Improved.	Unimproved.					Syphilis.	Abscess or Gangrene of Lung.	Typhoid.	Bronchial Asthma.	Organic Heart Disease.	Graves Disease and Myxoedema.	Nephritis.	Malignant Tumor.	Unresolved Pneumonia.	Aneurysm.	Epilepsy.
White male	145	45	71	36	23	14	35	35	52	69	70	6	58	80	7	109	26	68	8	47	18	5	24	32	1	1	79	64	6	20	50	21	9	1	...	1	3	...	1	1	1	1	...
White female	64	38	15	21	18	10	18	19	19	31	29	4	29	32	3	202	29	20	8	36	18	8	10	15	...	1	32	31	7	8	19	8	5	...	...	1	4	2	1	...	...	...	2
Colored male	38	34	20	11	6	1	7	11	14	15	22	1	18	20	...	99	39	22	12	37	7	13	6	3	...	2	23	13	1	3	8	2	7	...	...	1	2	...	...	...	...	...	...
Colored female	21	30	12	4	2	3	5	7	7	8	10	3	5	15	1	162	57	12	18	52	4	8	4	1	...	4	12	5	2	8	4	1	2	1	1	...	...	...	...	...	...	...
Total white	209	43	86	57	41	24	53	54	71	100	99	10	87	112	10	138	27	88	8	47	36	6	34	47	1	2	111	95	13	28	69	29	14	1	...	2	7	2	2	1	1	1	2
Total colored	59	33	32	15	8	4	12	18	21	23	32	4	23	35	1	117	46	34	14	52	11	11	10	4	...	6	35	18	3	11	12	3	9	1	1	1	2	...	...	...	...	...	...
Total male	183	43	91	47	29	15	42	46	66	84	92	7	76	100	7	106	29	90	9	47	25	7	30	35	1	3	102	77	7	23	58	23	16	1	...	2	5	...	1	1	1	1	...
Total female	85	36	27	25	20	13	23	26	26	39	39	7	34	47	4	190	36	32	12	52	22	8	14	16	...	5	44	36	9	16	23	9	7	1	1	1	4	2	1	...	...	...	2
Totals	268	41	118	72	49	28	65	72	92	123	131	14	110	147	11	133	31	122	10	52	47	8	44	51	1	8	146	113	16	39	81	32	23	2	1	3	9	2	2	1	1	1	2

ANNUAL REPORT OF THE PATHOLOGICAL DEPARTMENT OF THE CITY HOSPITAL

BAY VIEW HOSPITAL, December 31, 1916.

To the Board of Supervisors of City Charities:

GENTLEMEN—I have the honor to submit the following report of the Department of Pathology from January 1, 1916, to December 31, 1916.

In spite of the fact that the number of deaths in the institution has been considerably less during the last twelve months than in any of the preceding years since the organization of the Department of Pathology, the total number of autopsies performed is almost equal to the maximal number for any year, which was attained in 1915. This, of course, means that the percentage number of autopsies to the number of deaths has materially increased.

It may be of interest to know that in this latter respect the institution surpasses the vast majority of well-organized hospitals in the United States.

The increase in the percentage of autopsies is entirely due this past year, as in the preceding ones, to the interest of the clinical departments, and the excellent co-operation of the office staff.

The autopsy record of the past year, in comparison with the three preceding years, is presented in the following table:

Year.	No. of Deaths.	No. of Autopsies.	Per Cent. Autopsies.
1913	631	153	25.8
1914	675	228	33.8
1915	652	297	45.4
1916	597	294	49.1

Deaths and percentage of autopsies in different departments, 1913-1916:

Year.	Medical.		Phthisical.		Surgical.		Insane.	
	Deaths.	Per Cent. Autopsies.	Deaths.	Per Cent. Autopsies.	Deaths.	Per Cent. Autopsies.	Deaths.	Per Cent. Autopsies.
1913	227	39	261	16	55	44	88	3.4
1914	273	38	239	33	77	43	86	20
1915	274	45	242	52.5	69	39	67	30
1916	268	54.1	227	44.8	60	50	42	42.8

The activities of the Department have continued along the lines indicated in the previous reports. The autopsy material has been utilized to the utmost both at the bi-weekly clinical pathological conferences and for demonstration to the students of the medical schools of the city.

It is greatly to be regretted that on account of inadequate financial support, the natural progression of the Department has not been possible. Several laboratory assistants have been secured, but in each instance, after the energies of the staff had succeeded in initiating them into the difficulties of the technical work, better recompensed positions have lured them away. The salary for this position is so small that it has been impossible to obtain an incumbent during the past six months and the histological coroboration of the gross anatomical lesions, so important for the accuracy of the study of the autopsies, has only been possible in the most obscure cases.

Unfortunate as this is, the Department must still face a much greater loss with the resignation of Dr. Hussey, the resident pathologist, to take place this spring, solely on account of the insufficient salary.

The position will be difficult to fill and it is feared that the organization of the Department brought to its present state of efficiency under such adverse circumstances will suffer a severe setback.

Respectfully,

M. C. Winternitz,
Pathologist-in-Chief.

THE DENTAL INFIRMARY OF THE CITY HOSPITALS, BAY VIEW

On the 1st of January, 1916, the Dental Infirmary of this institution was opened. The Dental Infirmary is located on the first floor of the Alms House, facing almost due south, and has a most desirable unobstructed light from early morning until late evening.

The equipment of this Infirmary is a combination Ritter engine and chair, Clark cuspidor, sanitary white porcelain lavatory with hot and cold water, electric sterilizer, compressed air for sprays, chip blower and abscess syringes, and everything necessary for all dental operations, which include everything except gold work; i. e., gutta-percha, cement and amalgan fillings, nerve extirpation and root canal treatment and filling, cleaning of teeth, pyorrhea treatments and extractions, antrum operations, removal of growth within the mouth, reducing of fractures of the mandible and maxillac, and the administration of local and general anaesthetics.

Naturally in a clinic such as is afforded at an institution of this kind, the confidence of the patients and the elimination of pain is of paramount importance. Even the insane patient is docile when he finds out "it will not hurt." To this end the author has devoted all of his energies, until at the present date even these patients return at regular intervals for examination.

To give an estimate of the appreciation of some of the insane for dental services, the author was tendered a check for a half million dollars for the extraction of a single tooth.

The bulk of the extractions, which average nearly a hundred a month, are done with Locosthetic P. and D., a three-fourths of 1 per cent. cocaine solution, and all nerve extirpations and difficult extractions with Kalo-Kain, a 1 9/10 per cent. cocaine solution. Of course, it is occasionally necessary that a general anaesthetic be administered. In this event, one of the resident physicians administers the "general," assisted by a graduate nurse, and when all is in readiness the required dental operation is performed.

It will be readily seen by the record charts that nine-tenths of the operations are done under local anaesthesia.

The patients here are first admitted to the Hospital general, and are immediately assigned to whatever department their case demands.

Subsequently, they receive thorough physical examination, and if any dental work is required they are given a pass to the Dental Infirmary. Here their mouths are put in as good condition as is possible, and they are given a tooth brush and box of paste, accompanied by a little lecture on the care of the mouth and teeth, and the many advantages of oral hygiene.

Of course where surgical intervention is found necessary for the insane, the patient is presented with two guards for the operator's protection.

In all luetic cases the operator is presented with a chart giving the results of the Wasserman tests obtained in the bacteriological laboratories, and in these cases wears full surgical attire of cap, gown, mask and rubber gloves. In all dental work done at this hospital, the author has the hearty co-operation and assistance of a most competent medical staff of twenty-five physicians, who are fully appreciative of the benefits of oral hygiene. The Dental Infirmary is open every Monday and Friday from 9 A. M. to 5 P. M.

To give an insight into the amount of work which has been accomplished during this first year, the annual report of the Dental Infirmary for 1916 is herewith given:

Amalgan fillings	69
Cement fillings	98
Gutta percha fillings	29
Abcesses lanced	10
Calculus removed	228
Pulps capped	2
Pulps devitalized	11
Pulps extirpated	19
Root canals filled	39
Teeth extracted	861
Teeth treated	168
Impacted third molars	4
Pyorrhea alveolaris	195
Gums treated	165
Local anaesthetics	217
General anaesthetics	4
Examinations (six months only)	398
Plates made	10
Sequestra removed	5
Broken jaw set	1
Growths removed	2
Porcelain crowns	6
Antrums opened	2
Gold inlays made	3
Total number of visits made by patients to the Dental Infirmary	942
Total number of operations performed	2,546

Respectfully,

Dr. L. P. Henneberger.

CITY OFFICE STAFF

NATHANIEL G. GRASTY.....*Secretary*
T. JAMES HUNTER.....*Visitor-in-Chief*
GEORGE SCHUSTER.....*Chief Clerk*
MISS ELIZABETH S. WALSH.....*Visitor*
MISS MARY O. SIMPSON.....*Visitor*
MRS. LURA B. HEPBURN.....*Visitor*
MISS M. MERCEDES MURRAY.....*Visitor*
MISS ELEANOR C. NELSON.....*Clerk and Visitor*
MISS MARY G. ELLETT.....*Clerk and Stenographer*

MEDICAL AGENCIES

Southern District:

GILBERT F. BUXTON, M. D.....*Physician-in-Charge*
JENNIE N. BROWNE, M. D.....*Assistant Physician*
MISS MYRTLE R. BIXLER.....*Trained Nurse*

Northwestern District:

HARRY D. MCCARTY, M. D.....*Physician-in-Charge*
MARY C. WILLIS, M. D.....*Assistant Physician*
MISS M. LOUISE SITLER.....*Trained Nurse*

Western District:

ELLIOTT H. HUTCHINS, M. D.....*Physician-in-Charge*
BERTHA E. TAPMAN, M. D.....*Assistant Physician*
MISS BERTIE R. HUGHES.....*Trained Nurse*

Northern District:

BENJAMIN S. HANNA, M. D.....*Physician-in-Charge*
MABEL BELT, M. D.....*Assistant Physician*
MISS SARA V. KENLY.....*Trained Nurse*

BAY VIEW

OFFICIAL STAFF

Lamar Hollyday.....*Superintendent*
William H. Curry.....*Purveyor*
Charles H. Minnick.....*Clerk*
John T. McGuinness.....*Clerk*
Ezra B. Steiger.....*Clerk*
Mary E. Nelson.....*Stenographer*
Mary E. Little.....*Matron*
Cornelia Ham.....*Assistant Matron*
Mary Mercer.....*Sewing Teacher*
Jane Cooper.....*Pharmacist*
John B. Hunter.....*Supervisor*
Joseph P. Doran.....*Assistant Supervisor*
James J. Farrell.....*Chief Engineer*
Claud F. Farley.....*Assistant Engineer*
Lee E. Norfolk.....*Assistant Engineer*

BAY VIEW HOSPITAL

MEDICAL AND SURGICAL STAFF

Physician-in-Chief:
THOMAS R. BOGGS, M. D.

Surgeon-in-Chief:
ARTHUR M. SHIPLEY, M. D.

Pathologist:
MILTON C. WINTERNITZ, M. D.

Assistant Pathologist:
RAYMOND G. HUSSEY, M. D.

Resident Physicians:
*THOMAS P. SPRUNT, M. D.
ERNEST S. DUBRAY, M. D.

Resident Surgeons:
*C. C. HOKE, M. D.
DORSEY P. ETZLER, M. D.

1st Assistant Resident Physician:
*JOHN K. ORMOND, M. D.
LEO CHAPMAN BEAN, M. D.

Assistant Resident Physicians:
*GEORGE P. ROSS, M. D.
*JOSEPH JUDSON WAFF, M. D.
*WILLIAM M. HAPP, M. D.
†JOHN EDWARD WALKER, M. D.
WILLIAM W. ANDERSON, M. D.
†F. O. REINHARDT, M. D.
ROLAND BRIGGS, M. D.
‡DORSEY P. ETZLER, M. D.
D. C. W. SMITH, M. D.
M. K. MCLEAN, M. D.
P. W. CHRISTMAN, M. D.
BENJAMIN N. BRUMBAUGH, M. D.
J. E. CUDD, M. D.
R. W. REIER, M. D.

Superintendent of Nurses:
SADIE E. DAVIS, R. N.

Opthalmologist:
JAMES J. MILLS, M. D.

Otologist:
WILLIAM TARUM, M. D.

Gynecologists:
EDWARD H. RICHARDSON, M. D.
HUGH W. BRENT, M. D.

Urologists:
GIDEON M. TIMBERLAKE, M. D.
JOHN T. GERAGHTY, M. D.

Laryngologist:
FRANK DYER SANGER, M. D.

Pediatrician:
JOHN RUHRAH, M. D.

Neurologist:
HENRY M. THOMAS, M. D.

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*Term expired.
†Resigned.
‡Advanced to Resident Surgeon July 1, 1916.

TUBERCULOSIS HOSPITAL

Physician-in-Chief:

GORDON WILSON, M. D.

Resident Physicians:

*E. L. COOK, M. D.
CHARLES C. HABLISTON, M. D.

Assistant Resident Physicians:

†EDGAR LANE, M. D.
*W. BRIDGES, M. D.
†JAMES J. CHANDLER, M. D.
EDWARD BENSON, M. D.
†J. A. LOWERY, M. D.
ALBERT G. HAHN, M. D.
SAMUEL PRUITT, M. D.
WILLIAM F. WILLIAMS, M. D.

Supervising Nurse:

MARIE M. BARRON, R. N.

RECEPTION HOSPITAL FOR INSANE

Physician-in-Chief:

HENRY E. AUSTIN, M. D.

Resident Physician:

PHILLIP PEARLSTEIN, M. D.

Supervising Nurse:

JENNIE SWARNER.

Supervisor:

†A. C. ROBERTS
H. LONGFELLOW

Consulting Staff:

HENRY J. BERKLEY, M. D.
ADOLPH MEYER, M. D.

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*Term expired.
†Resigned.

COMPLIMENTS OF

WILLIAM MOHR

SUPT. OF LAMPS AND LIGHTING

ANNUAL REPORT

OF THE

SUPERINTENDENT OF LAMPS AND LIGHTING

TO THE

MAYOR AND CITY COUNCIL OF BALTIMORE

FOR THE

FISCAL YEAR ENDED DECEMBER 31, 1916

BALTIMORE
KING BROTHERS
CITY PRINTER

1917

REPORT OF THE SUPERINTENDENT

Office of
Superintendent of Lamps and Lighting,
City Hall,

Baltimore, January 2, 1917.

To the Honorable the Mayor and City Council of Baltimore.

Gentlemen:

I have the honor to submit for your consideration the following report in brief showing the work performed by the Department during the year 1916:

It is needless to say that the vast amount of paving operations and other improvements conducted by the City during the past year have increased the work of this Department to a very appreciable extent, in that we are required to plan and provide for the installation and re-arrangement of a large number of street lamps of all kinds. The measure of our work was also increased by reason of our general supervision of the operations of the street lighting contractors, the testing of luminating oil and the superintendence of special decorations and illumination erected for the Elk's Convention.

It has been generally conceded by our citizens and by the visitors to the City that the electrical decorations erected for the Elk's Convention, held in this City from July 10th to 16th last, were the most stupendous and beautiful display of its kind ever attempted in this City.

The plans of decorations and illumination for this Convention were entirely new and novel in effect. The main display, located on the Court House Plaza, depicted a beautiful garden, in which were erected electrical fountains, statuary, grass plots, flowers, pergolas and a central band-stand, in which concerts were held nightly during the Convention period.

In addition to this, two triumphal arches were erected on Fayette Street, one at Howard Street and the other at Eutaw Street, connected by columns and streamers of lights, forming a most attractive Court of Honor in front of the Elks' Home.

Three hundred of the White Way lamps in the main business district were decorated each with a plastic shield, containing the Battle Monument, the City's coat-of-arms, together with the National, State and City flags.

The entire cost of this work was $13,457.86, all of which was borne by the City.

In this connection, I desire to thank His Honor, Mayor Preston, for his co-operation and encouragement in the prosecution of this work, as well as for the many timely suggestions regarding the plans and their execution.

I also desire to extend my thanks to the Board of Park Commissioners for their substantial contribution of floral work, the National Electric Company (general contractors on the work), the Building Inspector's Department and the Municipal Art Commission for their efforts in assisting in bringing about a successful culmination of the entire scheme.

The permanent illumination of the City Hall dome, which was also a distinctive feature, was used in connection with this display, and was also used on other appropriate occasions during the year.

Type and Number of Street Lamps in Service.

There were in service on December 31st, 1916, street lamps of all classes, as follows:

Incandescent mantle gas lamps	12,084
Incandescent mantle naphtha lamps	306
Incandescent electric lamps (200 C. P.), overhead service, (Novalux Fixtures)	17
Incandescent electric lamps (40 C. P.), overhead service	1,615
Incandescent electric lamps (40 C. P.), underground service	436
Luminous "White Way" arc lamps, all-night underground service	788
Luminous "White Way" arc lamps, half-night underground service	280
Electric arc lamps, old type, all-night underground service	1,258
Electric arc lamps, old type, half-night underground service	44
Electric arc lamps, old type, all-night overhead service	1,356
Incandescent electric ornamental underground, 60 to 80 candle-power	918
Total	19,102

Lamp Equipment—Property of City.

The City owns all the ornamental luminous arc lamps, posts and fixtures comprising the "White Way" districts, the ornamental lamps, posts and fixtures located on the North Baltimore Boulevards, on the City Hall Plaza, and on the several bridges, as well as all the gas lamp posts and lanterns, except a number of boulevard lanterns and patent burners, which are the property of the American Street Lighting Company. All other lamps and fixtures are the property of the several contractors.

Maintenance of Street Lamps.

All the street lamps are operated and maintained under contract by private corporations, with the exception of the

incandescent electric lamps (60 to 80 candle power) as follows:

271 lamps on North Charles Street, from North Avenue to northern City limits.
22 lamps on Oak Street, from University Parkway to Mallory Lane.
55 lamps on University Parkway, from Charles Street to Stony Run Bridge.
6 lamps on Stony Run Bridge, crossing University Parkway.
22 lamps on Thirty-ninth Street, from University Parkway to Oak Street.
8 lamps at Sewerage Pumping Station, on adjacent streets.
16 lamps surrounding Eastern Female High School.
25 lamps surrounding Western Female High School.
24 lamps surrounding Polytechnic Institute.
15 lamps on North Washington Street, from North Avenue to entrance to Clifton Park.
14 lamps on Edmondson Avenue Bridge.
10 lamps on South Monroe Street Bridge.
8 lamps on Hamburg Street Bridge.
8 lamps on Harford Avenue Bridge.
8 lamps on Stockholm Street Bridge.
8 lamps on Lee Street Viaduct.
155 lamps on St. Paul Street Bridge.
142 lamps on Calvert Street Bridge.
60 lamps on City Hall Plaza (12 clusters, 5 each).
6 lamps on Poplar Grove Street Bridge.
4 lamps on Mount Street Bridge.
8 lamps on Bentalou Street Bridge.
16 lamps on Frederick Avenue Bridge.
4 lamps on Pratt Street Bridge (over Jones' Falls).
3 lamps on Abutment Wall (east side of Russell Street, opposite Bush Street.

These lamps are the property of the City and are operated and maintained by this Department. The current is furnished by the Consolidated Gas Electric Light and Power Company (by meter measurement), excepting the lamps around the Sewerage Pumping Station, and those on the City Hall Plaza, which is supplied by the High Pressure Pumping Station.

Cost of Maintaining and Operating the Street Lamps.

The cost for the operation and maintenance of the street lamps is at the following Rates per lamp per year:

Incandescent mantle gas lamps (including supply of gas), avg.	$16 95
Incandescent naphtha lamps	27 00
Incandescent electric lamps, 200 C. P., overhead service, Novalux Fixtures	36 50
Incendescent electric lamps, 40 C. P., underground service	31 20
Incandescent electric lamps, 40 C. P., overhead service	19 71
"White Way" luminous arc lamps, all-night underground	84 60
Maintenance of above lamps	1 00
"White Way" luminous arc lamps, half-night underground	81 00
Maintenance of above lamps	1 00
Electric arc lamps, old type, all-night underground service	72 00
Electric arc lamps, old type, half-night underground service	68 00
Electric arc lamps, old type, all-night overhead service	60 00
Incandescent electric ornamental lamps, 60 C. P. (owned and maintained by this Department)	15 22
Incandescent electric ornamental lamps (clusters), 60 and 80 C. P. (owned and maintained by this Department), less current	8 74

Electric Current for Use in Public Buildings.

For the first forty thousand (40,000) kilowat hours per month, five cents (5c.) per kilowatt hour.

For all over forty thousand (40,000) kilowatt hours per month, three and sixty-six hundredths cents (3.66c) per kilowatt hour.

For a consumption of fifteen thousand (15,000) kilowatt hours in any one month at any one location, three cents (3c) per kilowatt hour.

Cost of Gas for Street Lighting.

For all gas for street and out-door lamps located along the Company's mains, six dollars and fifty cents per lamp per year, not exceeding two and one-quarter cubic feet of gas per

hour per lamp, payable at fifty-four and one-sixth cents per month per lamp, and for all gas consumed in excess of an average of two and one-quarter cubic feet per hour per lamp, thirty-five cents per thousand cubic feet for such excess. Should the average consumption of gas exceed three feet per hour per lamp, such excess is charged to the American Street Lighting Company as per our contract.

Cost of Gas for Public Buildings.

For gas supplied to the City along the Company's mains, for lighting the public buildings of the City, there is a primary rate of seventy cents per thousand cubic feet of gas, and a secondary rate of thirty-five cents per thousand cubic feet of gas. The primary rating is set for a specified number of cubic feet of gas used monthly at each separate premise, and represents the maximum consumption to be charged for at the rate of seventy cents per thousand cubic feet, while the secondary rating applies only to the gas used in excess of this set limit, and the same to be charged for at the reduced rate of thirty-five cents per thousand cubic feet.

For Service Connections for Street Lighting.

For service connection from main to street or out-door lamps, in accordance with the specifications, seven dollars and fifty cents each for material and labor, it being understood that the City will pay the improved pavement charges also.

For such services from main to curb only, six dollars each.

For such services from curb to lamp, one dollar and fifty cents each.

NOTE:—The gas and naptha lamps are operated by the American Street Lighting Company, under contract, which agreement expires November 30th, 1919. The gas is supplied by the Consolidated Gas Electric Light and Power Company, under contract, same expiring March 1st, 1917. The electric arc and incandescent street lamps are operated by the Consolidated Gas Electric Light and Power Company, which contract expires November 1st, 1917.

Extension of Street Lighting Service.

During the past year, owing to the opening and paving of many streets, there were installed and placed in service a total of 1,520 new lamps of all classes, as follows:

Incandescent mantle gas lamps	638
Incandescent mantle naphtha lamps	12
Electric arc and incandescent lamps	863
Ornamental electric lamps placed under the supervision of the Department	7
	1,520

The above includes the installation of new "White Way" lamps on North Charles Street, from Mount Royal Avenue to North Avenue and on North Avenue from Maryland Avenue to St. Paul Street; also four lamps on Courtland Street, between Hamilton and Franklin Streets, and one lamp at the north side of the Key Highway, opposite the west curb line of Lawrence Street.

Discontinuance of Various Types of Lamps.

In order to secure a maximum of efficiency and uniformity of appearance of the lighting system in certain localities, we have substituted one type of lamp for another to meet conditions existing at various points throughout the City, with the result that there has been discontinued from the service 180 gas lamps, 52 electric arc lamps, 5 incandescent electric lamps and 67 naphtha lamps.

Lamp Posts Recovered.

During the year 92 unused gas lamp posts were recovered in different sections of the City. These posts, which are the property of the City, have been stored in the City yard, and will be used again in connection with the installation of new lamps when they are needed.

Street Lamps Transferred.

On account of the establishment of new curb circles and the extensive operations of the Commissioners for Opening Streets, the Highways Engineer and the Paving Commission, we were requested to transfer 269 electric and 228 gas lamps from old to new locations in various sections of the City and Annex.

Substition of One Illuminant for Another.

When the extension of the gas mains will permit, gas lamps are installed in place of naphtha and incandescent electric lamps, and when it can be arranged to extend the electric service lines to points within the City where naphtha lamps are in service and no gas mains exist, electric incandescent lamps are also installed in place of naphtha lamps. Therefore, during the year, we have been enabled to place 10 gas lamps in substitution for the same number of naphtha and incandescent electric lamps, and 128 incandescent electric lamps in place of naphtha lamps.

Due to the subway conduit system being extended by the Electrical Commission during the past year, 66 arc and 106 incandescent electric lamps were changed from over-head to under-ground service.

Alley Lighting.

As a matter of protection from lawlessness and to promote more sanitary conditions in a number of private and public alleys, His Honor has instructed that such alleys be properly lighted in advance of the new paving, which I have been pleased to do. This work has received our careful and prompt attention, and I take pleasure in reporting that we have placed in service 586 lamps in such localities.

Illumination of Play Grounds.

At the request of the Public Athletic League, and in accordance with our usual custom, we have lighted the public play grounds in various sections of the City during the summer months, for the convenience and pleasure of those who must seek recreation at night.

Street Signs—Repaired and Erected.

During the year 736 new street name signs were erected at street intersections in the different sections of the City, and 246 signs were repaired or painted as conditions required. This improvement was made necessary on account of the changing of street names, the opening of new streets and the substitution of new signs for old and defective ones; all of which work having been performed by the forces of this Department.

Wrecked Lamps.

Owing to traffic collisions and other accidents, 88 gas lamps and 21 electric lamps were wrecked; and 226 gas lamp globes and 49 electric lamp globes were broken. Under the terms of our contracts, the proper repairs were made by the contractors, the new fixtures becoming the property of the City. However, the contractors are permitted to collect the actual cost for repairing the equipment from the parties responsible for the accident.

Alterations and Repairs to Street Lamps.

Owing to the natural wear and tear of the street lamps and fixtures, it was necessary to make the following alterations and repairs during the year:

Boulevard globes changed to ornamental	35
Miner globes changed to boulevard	2,524

Miner globes changed to ornamental	2
Lamp dome replaced	361
Lamp draft tubes replaced	104
Lantern repairs	276
Lamp post repairs	401
Pavement repairs at base of lamp posts	433
Telegraph, telephone and trolley poles transferred	26
Lamp posts painted	4,318

Inspection of the Service.

As usual, the District Superintendents have patroled their respective districts each night during the year, for the purpose of inspecting the lighting service during the hours in which the lamps are burning. All defects found in the light or equipment are reported to this office, and the proper penalty imposed upon the contractor, as specified in the contracts.

As required by Ordinance, samples of illuminating oil have been collected on week days from the retail merchants of the City and tested in the laboratory of the Department. During the year 6,185 samples were collected for inspection and test, and in no case was the oil tested found to be below the legal standard and flashing point of 120 degrees Fahrenheit.

Contracts Awarded.

To the Consolidated Gas Electric Light and Power Company, for the supply of gas to the City street lamps, and for the gas used in municipal buildings; also for the operation and maintenance of arc and incandescent electric lamps and for the supply of current to public buildings.

To the Morris Iron and Steel Company, for the supply of plain iron gas lamp posts.

To the American Street Lighting Company, for the maintenance and operation of the street gas and naphtha lamps.

To the National Incandescent Lamp Company, for the supply of incandescent electric lamps or bulbs.

To the National Electric Company, for the decorations and illumination for the Elks' Convention.

COMPARATIVE STATEMENT OF TOTAL LAMPS IN SERVICE.

1915-1916.

Total number of lamps (all kinds) in service, Dec. 31, 1916....	19,102
Total number of lamps (all kinds) in service, Jan. 1, 1916....	17,880
Total net increase during the year 1916.....	1,222

SUMMARY OF THE AMOUNT OF APPROPRIATIONS, EXPENDITURES AND BALANCES FOR THE YEAR ENDED DECEMBER 31, 1916.

Account.	*Dr.*	*Cr.*	*Dr. Bal.*	*Cr. Bal.*
Salaries.	$ 20,389 25	$ 20,804 00	.....	$ 414 75
Gas Light. & Maint.....	220,813 28	242,769 03	.....	21,955 75
Elec. Light. & Maint....	317,248 15	352,933 06	.....	35,684 91
Naphtha Light & Maint..	8,732 19	12,825 00	.....	4,092 81
Incidentals.	274 35	300 00	.....	25 65
Emergency Fund.	13,457 86	20,028 00	.....	6,570 14
Comptroller.	649,905 64	581,161 63	$68,744 01	.....
Totals.....	$1,230,820 72	$1,230,820 72	$68,744 01	$68,744 01

Receipts: Recovered damages, sale of old material, etc., for the year ended December 31st, 1916.....$1,845 14

CONCLUSION.

You will note that the financial statement shows an unexpended balance of $68,744.01. This surplus is partly due to the saving effected by the Department, but largely to the

inability of the various City Departments and the Gas and Electric Company to complete our work owing to delay in delivery of materials and labor conditions.

I desire to thank His Honor and the several Departmental Heads, with whom this Department has had to deal officially during the year, for the uniform courtesy and co-operation extended me at all times, and which has resulted in the disposition of the public business to the satisfaction of all concerned.

I also desire to express my thanks to the employees of the Department for the faithful and efficient services rendered at all times.

Respectfully submitted,

WILLIAM MOHR,
Superintendent of Lamps and Lighting.

SUMMARY OF STREET LAMPS

(Operated and Maintained Under Contracts.)

Gas Lamps.

Plain "Miner" Type.

In service January 1, 1916	3,073		
New lamps installed during the year	....		
		3,073	
Discontinued during the year	47		
Changed from plain to boulevard type	2,524		
Changed from plain to ornamental type	2		
		2,573	
			500

Boulevard Type.

In service January 1, 1916	7,167		
New lamps installed during the year	595		
Changed from plain to boulevard type	2,524		
Changed from ornamental to boulevard type	0		
		10,286	
Discontinued during the year	74		
Changed from boulevard to ornamental type	35		
		109	
			10,177

Ornamental Type.

In service January 1, 1916	1,236		
New lamps installed during the year	43		
Changed from plain to ornamental type	2		
Changed from boulevard to ornamental type	35		
		1,316	
Discontinued during the year	59		
Changed from ornamental to boulevard type	....		
		59	
			1,257

Five Light Clusters (Ornamental Globes).

In service January 1, 1916	110		
No changes during the year	....		
		110	
			110

Four Light Clusters (Plain Globes).

In service January 1, 1916	40		
No changes during the year	....		
		40	
			40

Gas lamps (all types) in service January 1, 1916 12,084

NAPHTHA LAMPS.

In service January 1, 1916	361		
New lamps installed during the year	12		
		373	
Discontinued during the year		67	
Naphtha lamps in service December 31, 1916			306

ELECTRIC ARC LAMPS.

Plain Type (Overhead All-night Service).

In service January 1, 1916	1,373		
New lamps installed during the year	96		
		1,469	
Transferred from overhead to underground service	66		
Discontinued during the year	47		
		113	
			1,356

Plain Type (Underground All-night Service).

In service January 1, 1916	1,115		
New lamps installed during the year	89		
Transferred from overhead to underground service	66		
		1,270	
Changed from plain to "White Way" type	8		
Discontinued during the year	4		
		12	
			1,258

Plain Type (Underground Half-night Service).

In service January 1, 1916	44		
No changes during the year	....		
			44

"White Way" Type (Underground All-night Service).

In service January 1, 1916	749		
New lamps installed during the year	31		
Changed from plain to "White Way" type	8		
		788	
Discontinued during the year		....	
			788

"White Way" Type (Underground Half-night Service).

In service January 1, 1916	281		
Discontinued during the year	1		
			280
Electric arc lamps (all types) in service Dec. 31, 1916			3,726

INCANDESCENT ELECTRIC LAMPS, 40 C. P.

Plain Type (Overhead All-night Service).

In service January 1, 1916	1,185		
New lamps installed during the year	541		
		1,726	
Transferred from overhead to underground service	106		
Discontinued during the year	5		
		111	
			1,615

INCANDESCENT ELECTRIC LAMPS, 40 C. P.

Plain Type (Underground All-night Service).

In service January 1, 1916	235		
New lamps installed during the year	97		
Transferred from overhead to underground service	106		
		438	
Discontinued during the year	....		
Changed from underground to "White Way" arcs	2		
		2	
			436
Incandescent Electric 40 C. P. Lamps in service December 31, 1916			2,051

INCANDESCENT ELECTRIC LAMPS, 200 C. P.

In service January 1, 1916	....	
New lamps installed during the year	17	
		17
Incandescent Electric 200 C. P. Lamps in service December 31, 1916		17
Total number of lamps (gas, naphtha, electric, 40 C. P. and 200 C. P. incandescent electric lamps), operated under contract, in service January 1, 1917		18,201

ORNAMENTAL INCANDESCENT ELECTRIC LAMPS.

(Operated and maintained by the Department.)

In service January 1, 1916	911	
New lamps installed as follows:		
Pratt Street Bridge (over Jones Falls)	4	
Abutment Wall (east side Russell Street opposite Bush Street)	3	
Ornamental Incandescent Lamps in service January 1, 1917		918

Total number of lamps (all types) in service Dec. 31, '16	19,102
Total number of lamps (all types) in service Jan. 1, '16	17,880
Net gain of total number of lamps for the year 1916	1,222

ANNUAL REPORT

—of the—

TOPOGRAPHICAL SURVEY COMMISSION

To the Mayor and City Council of Baltimore for the Fiscal Year Ended December 31, 1916

BALTIMORE
KING BROTHERS
CITY PRINTER

1917

MAYOR'S OFFICE,

BALTIMORE, February 16th, 1917.

To the Honorable the Mayor and City Council of Baltimore:

GENTLEMEN: The Topographical Survey Commission respectfully begs to submit the following report of its Chief Engineer.

Very respectfully,

JOHN HUBERT, *Ex-Officio Mayor,*
JAMES F. THRIFT, *Comptroller,*
RICHARD GWINN, *Register,*
Topographical Survey Commission.

REPORT OF THE

CHIEF ENGINEER

—to the—

TOPOGRAPHICAL SURVEY COMMISSION

FOR THE YEAR 1916

City of Baltimore Topographical Survey.

BALTIMORE, December 31, 1916.

To the

HON. JAMES H. PRESTON, *Mayor,*
HON. JAMES F. THRIFT, *Comptroller,*
HON. RICHARD GWINN, *Register,*
Topographical Survey Commission.

GENTLEMEN: The duties and activities for the year 1916 of this department were greatly increased over those of previous years. This was due to the consolidation of the Engineering departments, whereby the Survey was delegated the making of practically all surveys necessary for public improvements or for the acquisition of private property. Heretofore, the Survey's field of effort had been limited, to a very great extent, to work in connection with the opening of streets and to the supervision and development of the Street Plan, including, however, both the Old City and the Annex, but principally the latter. Under the policy recently adopted, the Survey, besides looking after its own duties,—those concerning the development of the street system and for the maintenance of its traverse points on the co-ordinate system,—has, also, made surveys of most all character for the City Surveyor, Highways Engineer,—including the Sewerage Division,—the Bureau of Minor Provileges, the Water Department, Electrical Commission and the Commissioners for Opening Streets.

This class of work is made up principally of a great number of small surveys, and it has required constant adjustment and shifting of forces to meet the requirements that have been made. This arrangement has, undoubtedly, saved the City a considerable sum of money, but it is to be regretted that it has,

at the same time, prevented the department from concentrating its energies on the larger phases of City Planning. It is hoped, however, that when the innovation has had more time to be adjusted that the Survey can then devote more of its time and its attention to the planning for the better arrangement of the street system.

Of the supervision of the improvements made with the City by the State Roads Commission the Survey was relieved during the latter half of the year; this supervision was transferred to the Highways Engineer. Until this change was made the Survey had been concerned in making arrangements for very nearly the full programme of improvements contemplated by the Commission. In previous reports has been given an account of such work to the beginning of the year 1916, and it now only remains to bring the list to date at the time this department ceased its supervision. The two improvements still uncompleted were Liberty Heights avenue and Hanover street bridge; on the former the grading was completed and the contracts for both the erection of the bridge over the Western Maryland Railroad and for the paving of the entire road were awarded. This whole work will very shortly be completed, and it will add to the City's very creditable list of broad, excellent highways one in the very highest rank of importance.

Of the Hanover street bridge only a few minor details remained for construction before it should be opened for public usage. The work on the connections at both ends was well advanced and the draw was being adjusted to carry the tracks for the street railway. The improvement should be entirely completed very soon within the new year.

The only additional improvement under contemplation,—and this was in addition to the programme adopted on the approval of the last State loan,—was that of Hilton street between Frederick road and Edmondson avenue. The decision was finally reached that this work would be done by the Commission.

Improvements in South Baltimore.

It is considered by this department that by far the most creditable and beneficial improvement gotten under way for the City during the past year was the South Baltimore project. Grouped under this is included Key Highway, McComas street and Hanover street. The big problem to be solved concerning each and all of these most important thoroughfares was relative to the two trunk line railroads operating in and owning by far the larger area of property within this district. Definite and most satisfactory arrangements were, however, made with both the Baltimore & Ohio and the Western Maryland Railroad companies for the abolishing of all existing grade crossings; for the construction, without grade crossings, of considerable new trackage; and for the extension of the three principal highways referred to, together with other street connections.

In this connection, it is indeed, most gratifying to this department to note that the Hanover street widening will be carried out in entire accord with the recommendations made by the Survey in a report made to his Honor James H. Preston, Mayor of Baltimore, dated August 5, 1915, and published in the Annual Report of this department for the year ending December 31, 1915; this special report was supplementary to a similar one submitted on June 5, 1915. Practically the only change made,—and this was one merely of detail,—was the shifting of the crossing of the B. & O. railroad from its first suggested location at a point just north of Donaldson street to that of the bed of Winder street. Excepting this slight modification, the Survey's original plan, in its entirety, was approved and used as a basis of agreement between the City, as represented by the City Solicitor and the Chief Engineer, and the representatives of the two railroad companies concerned.

There is certainly excellent reason for the City to be sincerely gratified at the results obtained for South Baltimore, for the matter was both of exceedingly great importance and, too, of a nature requiring the solution of most difficult problems. When completed,—which should be within a comparatively short time,—this entire South Baltimore improvement will stand out boldly as a most worthy example of City Planning in its very best meaning.

Pimlico Circle and Connections.

Of the more important street projects opened to the public during the year Pimlico Circle stands in a prominent place. It is to be regretted that there has been a considerable amount of adverse criticism of this most important improvement, but this, it is most strongly felt, has come only from those not properly informed on the real existing, and, especially, on the proposed conditions. This department has always strongly maintained the attitude that when all of the proposed streets radiating from the Circle shall have been actually opened the feasibility and merit of the Circle will be clearly apparent to all. Sequoia avenue and Dukeland street are the only ones now remaining to be opened, and plans for both of these openings are now well under way. An ordinance for the condemnation and opening of Sequoia avenue is now in the Council, and an agreement between the interested property owners is under consideration for deeding to the City the bed of Dukeland street.

Owing to the opposition from certain organizations and individuals concerning the plans of Pimlico Circle, the whole scheme was referred to a committee composed of the Highways Engineer, the Chief Engineer of the Paving Commission and the Chief Engineer of the Commissioners for Opening Streets. This committee approved without reservation the plan for the Circle. On this account, and, too, because in previous reports

of this department has been given full details of the Circle, no further explanation will be made here in explanation of the reasons for providing a circular treatment at this most important intersection of so many principal highways.

Connecting Pimlico Circle, and, thereby, the northwest section of the City, with the sections of Woodberry and Hampden, is Woodberry avenue. Plans for greatly improving the serviceability of this potentially great thoroughfare have been discussed in the reports of this department for several years, and it is a matter of great satisfaction now to state that actual construction has been begun for making Woodberry avenue a wide, easy grade and thoroughly adequate artery of travel. Considerable grading is required to bring this avenue,—which has been relocated throughout a goodly portion of its route,—to meet the new elevation of Pimlico Circle, but the end of the coming year should see the improvement very nearly, if not quite, completed.

Fort McHenry Park.

Within the old built-up section of the City, Fort McHenry has occupied considerable amount of the Survey's attention during the past year. The plans embraced an enlarged parked entrance,—for which a condemnation plat and description were prepared,—for the purpose of providing a suitable site for the new Francis Scott Key monument, and, too, for providing space along the water front for the various boat clubs. The plans have now all reached an advanced stage and within a few weeks all arrangements should be definitely concluded.

City Exhibit.

Of a nature pertaining very closely to City Planning is the City Exhibit, consisting of views and models depicting the field of endeavor of practically all City constructural departments.

The exhibit has been sent to various Exhibitions, both in this country and abroad, and during the past year it received both gold and silver medals at the Panama-Pacific International Exposition. The exhibit was also on display in New York at the National Exposition of Chemical Industries and in Baltimore at the "Made in Baltimore" Exposition.

At present, when the exhibit is not on view at any special exhibition, it is kept packed in cases in the cellar of the City Hall. It would, indeed, be most desirable if there could be found sufficient space in some public building for arranging in an attractive manner this quite interesting collection of city planning data.

Triangulation.

In the report of this department for the year 1915 was given an account of the new triangulation in and around Baltimore contemplated in conjunction with the United States Coast and Geodetic Survey. The field work was completed during the past spring, and soon afterward the Survey was furnished with the latitude and longitude of all the new points, determined upon the standard meridian used by this department, so that hereafter all triangulation points in and around Baltimore can be determined relative to one system. This system is really national in scope and is a part of the trans-continental triangulation traversing each State of the country.

This new work will be of the greatest benefit to Baltimore, assuring, through its use, the very highest order of precision obtainable through practical methods of surveying. No other organization can approach in training and equipment the United States Coast and Geodetic Survey, and Baltimore has certainly been most fortunate in obtaining such aid. Mr. E. W. Eichelberg was the Assistant in charge of the work in Baltimore, and the manner in which he managed the operations created the most favorable impression with all who had the opportunity

of judging. Mr. Eichelberg, it may be mentioned, is a Baltimorean who acquired his early education and graduated from the Baltimore Polytechnic Institute, and obtained his degree from Cornell University.

Two theodolites were used, one a seven-inch Berger, similar to the one used by the Topographical Survey, and a twelve-inch one made by the Coast and Geodetic Survey for its own use. There are only two of these larger instruments in use in this country, and they are employed only on work where it is desired to obtain the highest degree of precision possible. The telescope is about three feet long, and is of a power of about sixty diameters,—about twice that obtainable through the standard makes of theodolites that can be bought. Horizontal angle readings are made by means of three micrometer-microscopes reading to one second,—ten seconds being about the limit of fineness of the best of trade manufactured instruments. These large instruments have been used to measure angles between points distant nearly two hundred miles from the observer,—such work, of course, being in the country of high mountain points.

On the whole, Baltimore now undoubtedly possesses the finest basis for municipal surveying of any city in this country, if not in the world. In a letter to the Chief Engineer of the Topographical Survey Commission, Mr. E. Lester Jones, Superintendent of the Coast and Geodetic Survey, made the following comment:

"In our opinion, each city in the country should have its detailed maps and surveys, based on a federal trigonometric control, and I am glad that the City of Baltimore has been so progressive in having this control for its work."

Annexation.

A subject of really vital importance to the welfare of the street plan of the City, and, most especially, to the territory immediately bordering on the present limits of the City, is that of the extension of the City's boundaries. This subject

has been commented upon at quite some length in previous annual reports, and considerable space has been devoted to the reasons why it is so highly important that authority be granted for the expansion of the street system now so abruptly terminated at simply an imaginary line.

The present City is now well traversed with a really excellent system of thoroughfares, and these have assured the nature of the intermediate minor streets. Not all of these thoroughfares are actually opened, but ordinances have been introduced for the opening of a number of the remaining ones, so that our field of effort in this direction is entirely bounded. As a natural consequence, the undeveloped land of the City is so small in area that it is not worthy of consideration, and the work of this department, instead of being along the line of broad, comprehensive planning, is now limited almost entirely to the supervision of a mass of details regarding the lines and grades of minor streets. From the City Planner's point of view extension of the City's boundaries is an urgent necessity.

Plats and Surveys.

Below will be found a list of the plats prepared by this department during the past year. This list does not, however, include a large number of detail plats made for practically each and every department of the City Government. The policy in compiling this report has been to give merely a very brief outline of the activities of the Survey during the past year, and no effort has been made to give any comprehensive treatment of any of the various subjects. It is to be hoped that those especially interested in any particular subject will inquire directly at this office for detail information, which will be most willingly given. The list of plats prepared is as follows:

Preliminary plat for the condemnation and opening of Monastery avenue, from Hilton street to a point 100 feet southerly from Old Frederick road.

Preliminary plat for the condemnation and opening of Mondawmin avenue, from Pennsylvania avenue to Pulaski street.

Preliminary plat for the condemnation and opening of Sequoia avenue (120 feet wide), from Pimlico Circle to Garrison avenue.

Preliminary plat for the condemnation and opening of Monroe street, from Clifton avenue to Elgin avenue.

Preliminary plat for the condemnation and opening of Abell avenue, from Merryman's lane to Homewood Terrace, and Homewood Terrace, from Guilford avenue to Barclay street.

Preliminary plat for the opening and relocation of Gwynn's Falls Parkway, between Allendale street and Clifton avenue.

Preliminary plat for the opening and relocation of Gwynn's Falls Parkway, between the Western Maryland Railroad and Liberty Heights avenue.

Preliminary plat for the condemnation and widening of Fort avenue, between the line of the northwest side of McComas street produced and the property of Fort McHenry.

Preliminary plat for the condemnation and widening of Garrison lane, from Edmondson avenue to Baltimore street.

Preliminary plat for the condemnation, opening and widening of Park Heights avenue, from Keyworth avenue to the Northern City Boundary line.

Preliminary plat for the widening of Lawrence street, between Fort avenue and Key Highway.

Preliminary plat for the closing of several portions of Gwynn's Falls Parkway, as now in process of opening between the Western Maryland Railroad and Liberty Heights avenue.

Preliminary plat for the closing of a portion of St. Paul street, between Lexington street and Saratoga street.

Preliminary plat for the closing of McComas street, from west outline of property of Page Engineering Company to the south side of Fort avenue.

Preliminary plat for the closing of Lancaster streeet, from President street to Jones' Falls.

Preliminary plat for the condemnation and closing of a portion of Key Highway (3rd section), now in process of opening.

Plat for deed of a portion of 28½ street, between Barclay street and a 10-foot alley east of Guilford avenue.

Plat for the deed of a portion of 35th street, between Star lane and Frisby street.

Plat of land to be conveyed by Frank Novak to the Mayor and City Council for street purposes.

Plat showing land on the east side of Hilton street north of Frederick road, to be deeded by the Mayor and City Council to Mary Peregoy.

Plat of land proposed to be exchanged between the Mayor and City Council of Baltimore and August E. Eberhardt et al.

Plat of the property to be acquired by the Mayor and City Council of Baltimore from Bedford Glascock.

Plat of property to be acquired by the Ellicott Machine Corporation from the Mayor and City Council of Baltimore.

Plat showing location of Frisby street, as proposed to be opened between Gorsuch avenue and Thirty-third street.

Plat showing location of Hilton street, between Monastery avenue and Frederick road, together with intersecting streets.

Plat to accompany deed to Mayor and City Council of Baltimore of bed of Bloomingdale road, from the right of way of Western Maryland Tidewater Railway Company to Winchester street.

Preliminary plat for the closing of a portion of St. Paul street, between Lexington street and Saratoga street, as now in process of widening under Ordinance No. 586, approved March 13, 1915.

Plat A and B for the condemnation and opening of Pulaski street, from Clifton avenue to Mondawmin avenue, in accordance with Ordinance No. 572, approved February 13, 1915.

Plat A for the condemnation, opening and widening of St. Paul street, from the north side of Lexington street to the south side of Beaurand Court, in accordance with Ordinance No. 77, approved January 31, 1916.

Plat showing encroachments upon street bed along south side of Lake Drive, between Lakeview avenue and Park avenue.

Plat of Guilford avenue, from University Parkway to Southway, to be deeded to the Mayor and City Council of Baltimore.

Plat showing part of bed of Tyson alley at Eager street, desired by Mr. E. Stanley Gary.

Plat showing amendment to the General Plan of Streets as adopted by Ordinance No. 129, approved December 3, 1898, and also amendment to that part of said General Plan as amended and adopted by Ordinance No. 363, approved November 17, 1913.

Plat of land conveyed by Mayor and City Council of Baltimore to L'Hirondell Club. (Property not conveyed.)

Plat showing property lines in vicinity of Jones' Falls.

Survey of property lines at Eastern Pumping Station, and Wolfe and Oliver streets.

Plat showing block subdivision northwest of Columbia avenue and southwest of Putnam street.

Plat of land near Loch Raven to be conveyed by Mayor and City Council of Baltimore to James J. Miller.

Plat showing properties of the Mayor and City Council of Baltimore and Frederick Yokel at south end of Long Bridge, Anne Arundel County.

Sketch showing location of Aetna alley at south side of Lexington street, prepared from deeds and proceedings for the opening of Lexington street.

Plan of Holliday street front of City Hall of Baltimore, showing elevations on sidewalks and first floor window sills.

Blue Print Sub-Department.

The Blue Print Sub-Department has continued to be a real source of revenue to the City. This is accomplished principally by doing work for all City Departments at a lower rate than that charged by the regular commercial blue print establishments, and, at the same time, making a profit on the business transacted. Following the movement of others, however, the rates on all classes of work have had to be advanced during the past year; this has been due to the greatly increased cost of all of the required raw materials. Blue prints have advanced from 1½ to 2 cents; white prints from 2 to 4 cents; negatives from 3 to 4 cents; blue print linen from 6 to 7 cents, and white print linen from 6 to 8 cents. The figures given are for square-foot rates.

Photostats have also advanced, and a sliding scale has been adopted, whereby the price is dependent upon the number of prints required.

I wish, especially, to express gratitude and appreciation to all of my assistants, both the office force and the field corps, for their generous spirit of co-operation, for the interest they have shown in the work, and for the manner in which it has been performed. There have been numerous changes in the staff of the department, and for this reason considerable credit is due those who have assumed additional duties, and duties with which they were not familiar, without extra compensation.

Very respectfully,

(Signed) Joseph W. Shirley,
Chief Engineer.

UNIV. OF MD COLLEGE PARK
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N. MANCHESTER,
INDIANA